THE ARCHITECT & BUILDING NEWS

2 AUGUST 1956 · VOL 210 · NO. 5 · ONE SHILLING WEEKLY

- **HOUSE AT READING**
- **CURRENT MARKET PRICES AND MEASURED RATES**

PUBLISHED IN LONDON SINCE 1854

JOHNSON'S

Reinforced Concrete Engineering Company Ltd.

Reinforced Concrete Specialists

Manufacturers of Wire Mesh Reinforcements

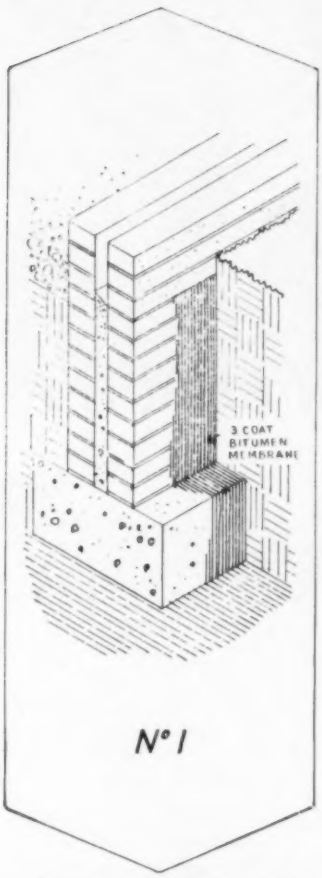
ARTILLERY HOUSE, ARTILLERY ROW
LONDON S.W.1

Telephone: ABBEY 2648

MANCHESTER : BIRMINGHAM : CARDIFF

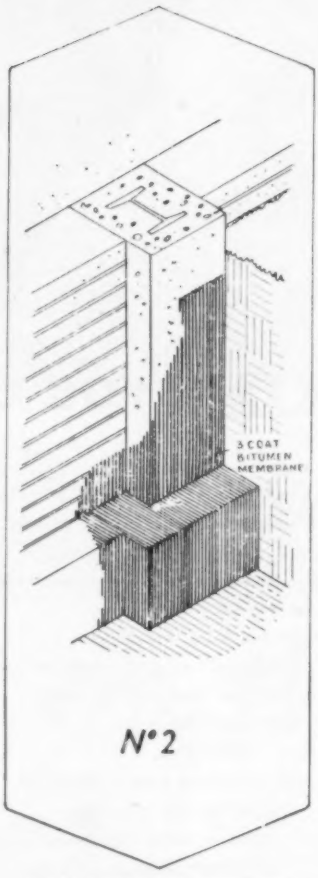
TRETOL SPECIFICATION SHEET **For Your Files**

PROTECTION OF BUILDING SURFACES BELOW GROUND LEVEL



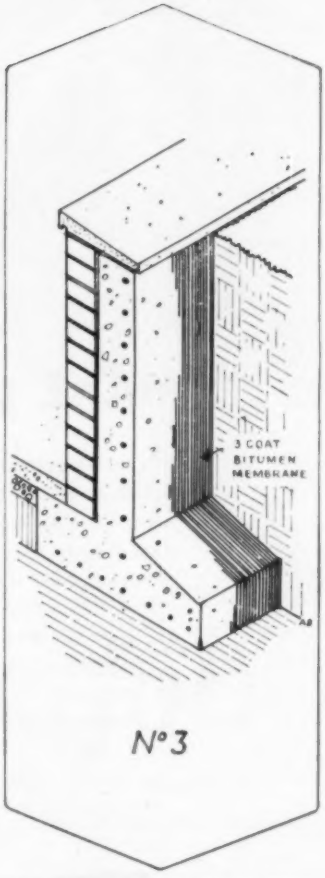
N° 1

Protection to foundations of brick built structures in sulphate bearing soils.



N° 2

Protection of concrete encased steelwork against chemical corrosion in polluted soils.



N° 3

Prevention of corrosion in reinforced concrete against subsoil water.

Probably the most expensive remedial work on a structure is that involving work below ground level. When building in sulphate bearing soils care is taken accordingly, both in design and choice of materials. Even so, consideration is not always given to the corrosive action of chemically polluted soils and sub-soil waters — especially those occurring in highly industrialised areas — and the resultant damage can prove extremely costly.

Bitumen is a traditional material for precautionary work of this nature. Its cost is low and very little skill is required in its application. Properly formulated coatings correctly applied will provide protection which will last the life of the building.

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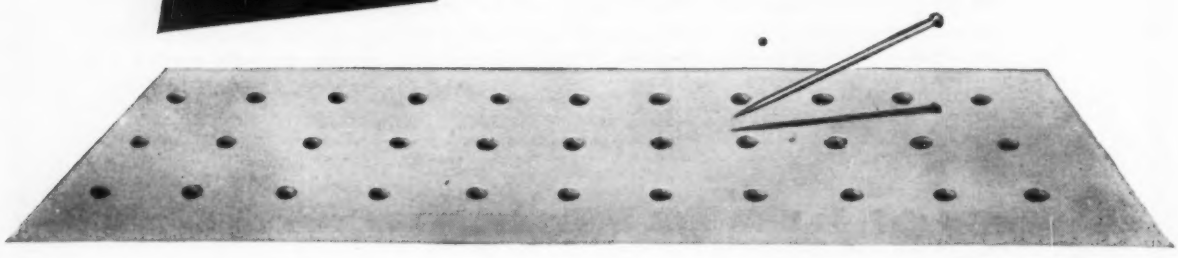

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DHB/2586

Aerial view of part of the L.C.C. Housing Estate, Merstham

'Framemesh' on the job

All roads on the L.C.C. Merstham Housing Estate are reinforced with FRAMEMESH High Tensile Welded Fabric Reinforcement to British Standard 1221 1945 Part A.

FRAMEMESH is supplied in rolls or flat sheets for all types of reinforced concrete.

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BSF/5

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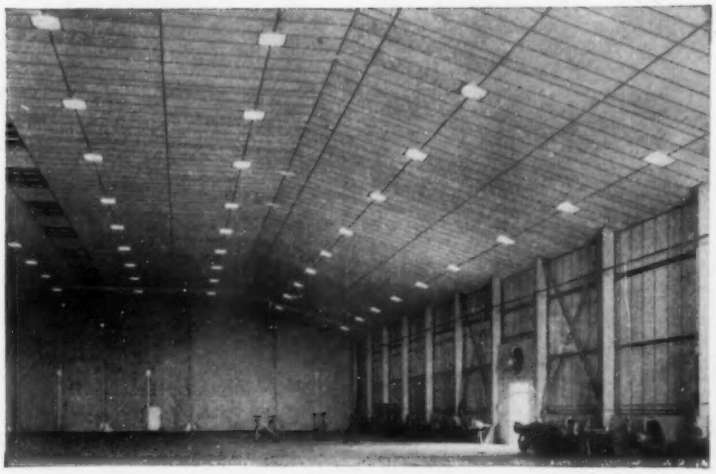
Architects:
Messrs. Adams, Holden & Pearson.

½" Insulating Board ceiling lining and over-purlin wall lining carried out by TenTesT in a Paint Shop for Messrs. Handley Page Ltd.

Architect:
A. E. Creswell, Esq., A.R.I.B.A., Handley Page Architects' Dept.



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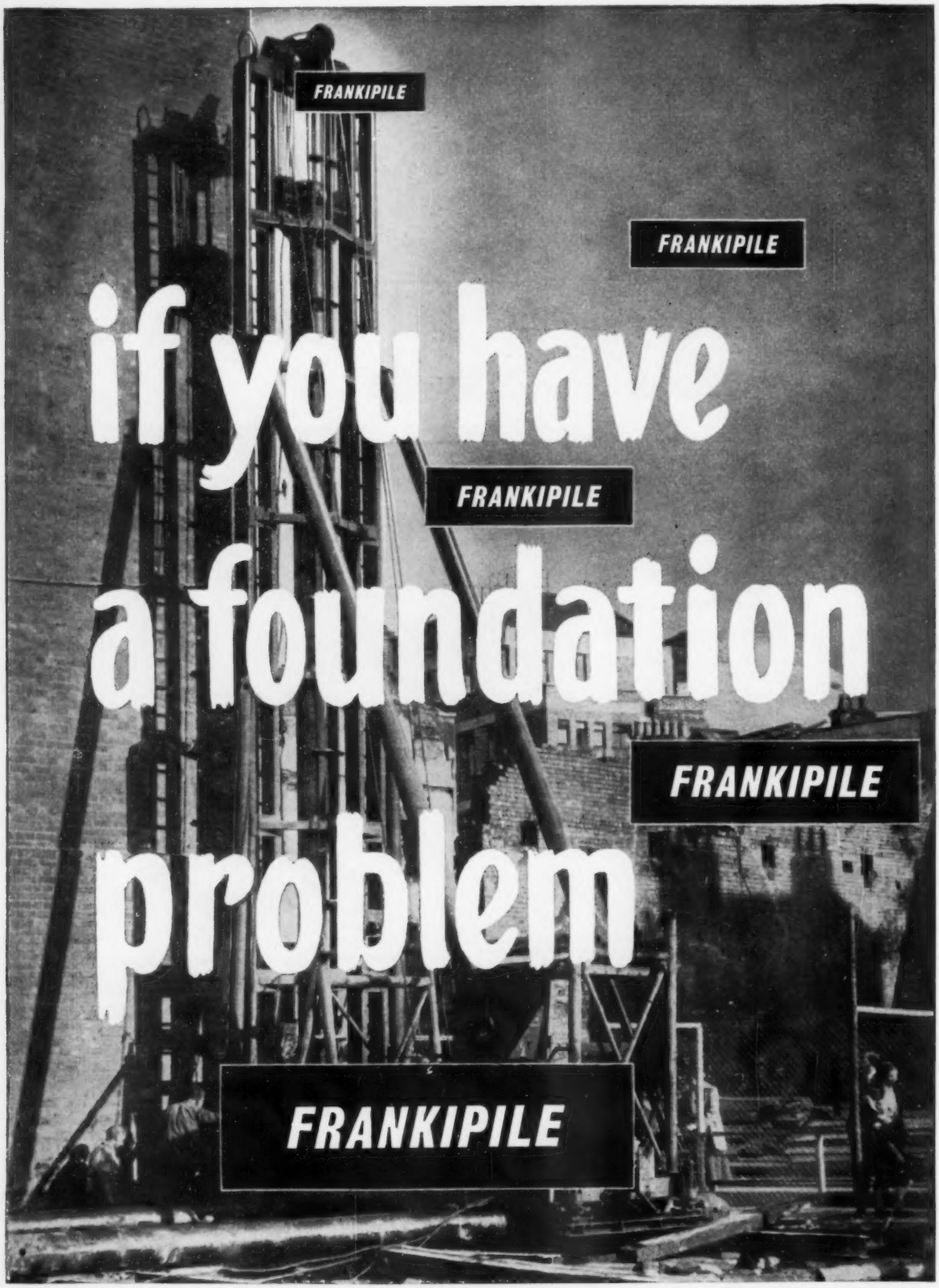

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Architects: Clifford Tee & Gale

Consultant Engineers: Freeman, Fox & Partners

Contractors: Messrs. Taylor Woodrow Construction Ltd.

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Photograph by courtesy of Messrs. C. D. Productions Ltd.

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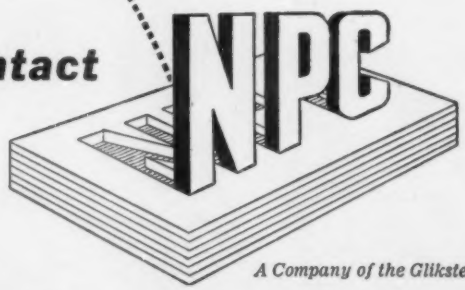

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6/58/510

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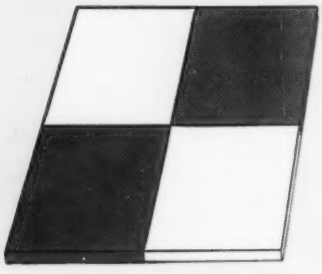
when it's a question of flooring



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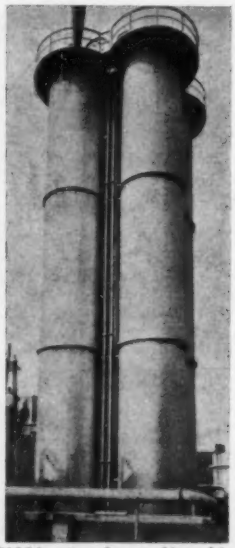

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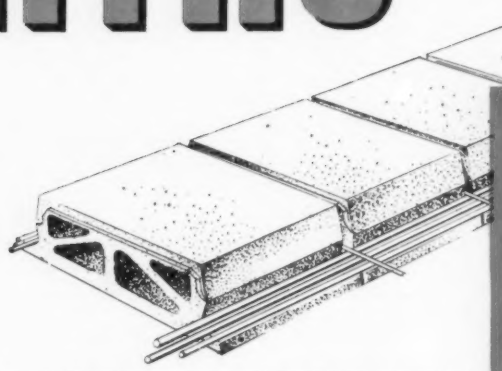
SMITH'S FIREPROOF FLOORS



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ABIX

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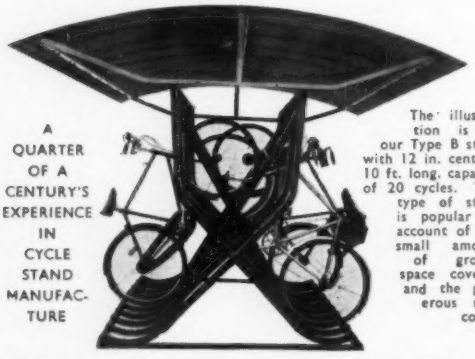
A QUARTER OF A CENTURY'S EXPERIENCE IN CYCLE STAND MANUFACTURE



The illustration is of our Type B stand with 12 in. centres, 10 ft. long, capacity of 20 cycles. This type of stand is popular on account of the small amount of ground space covered and the generous roof cover.

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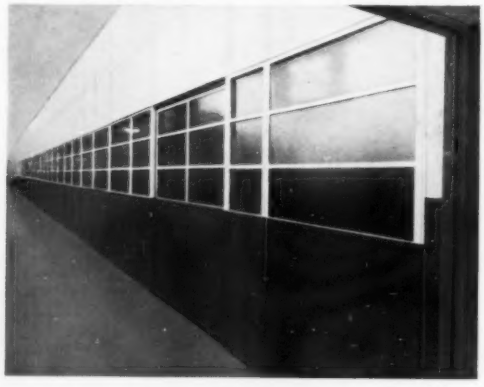

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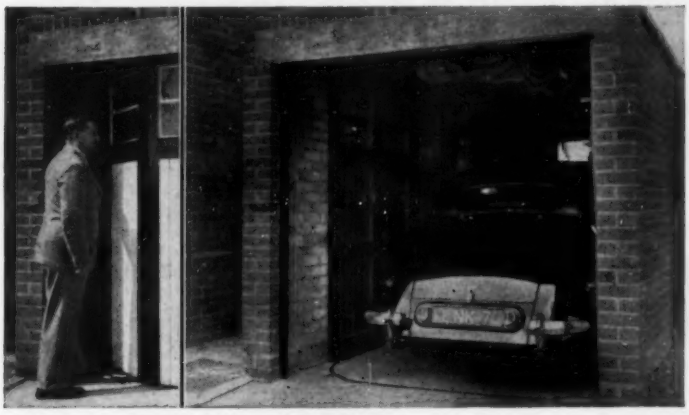

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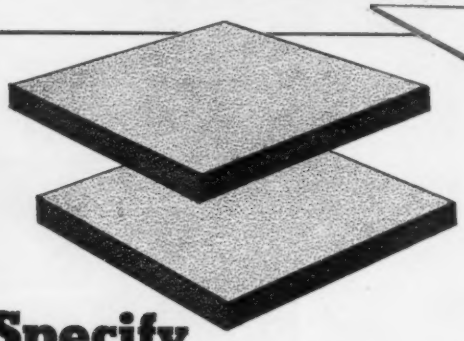

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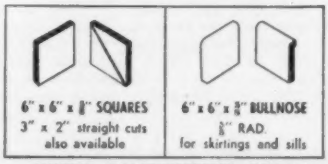

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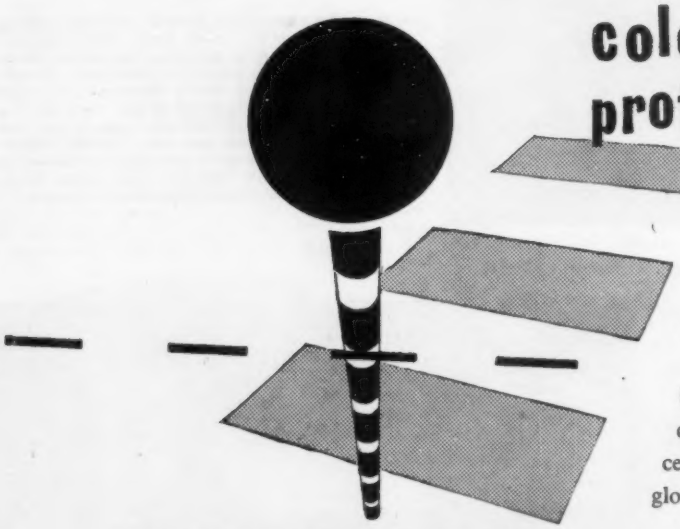

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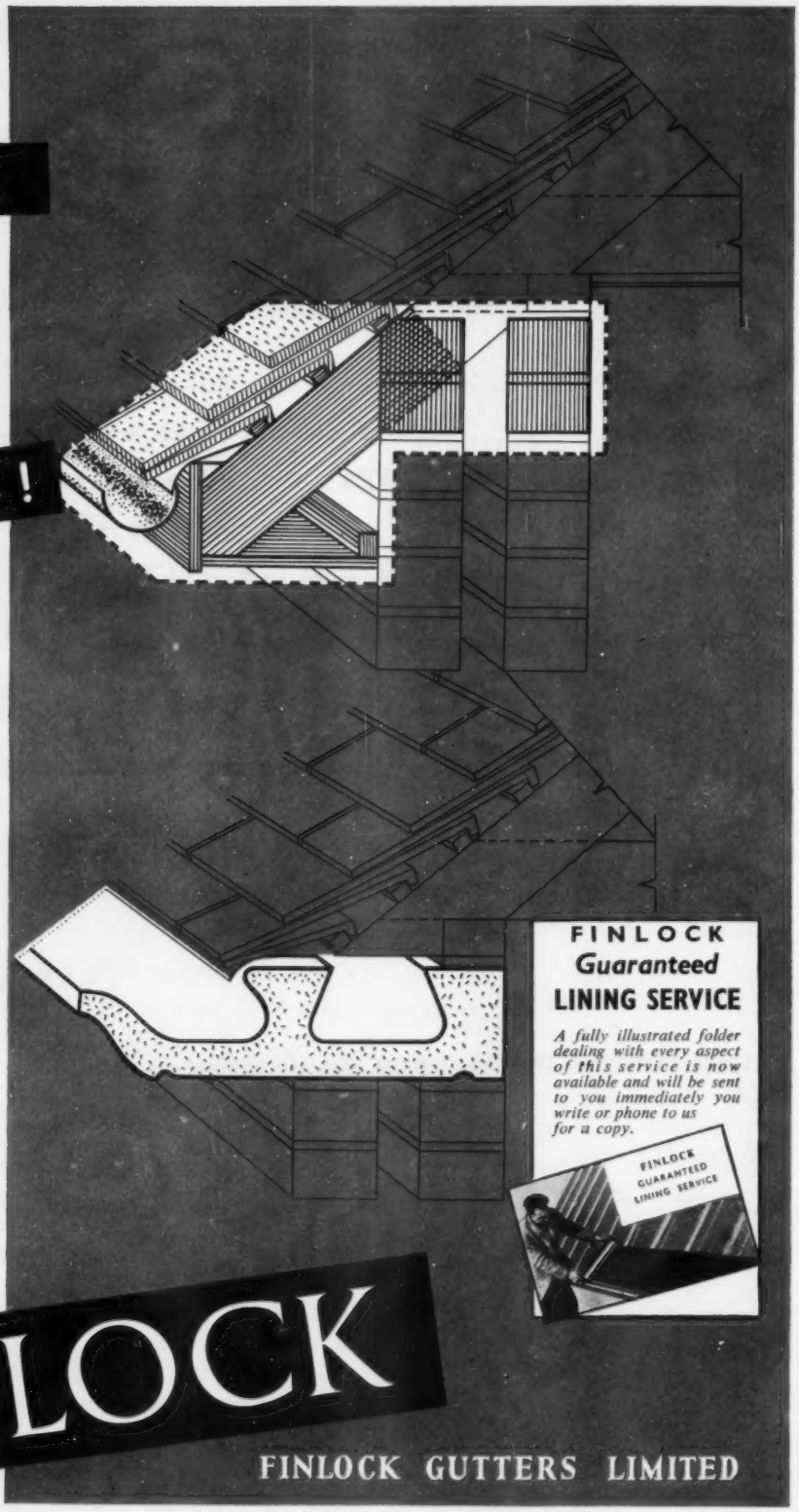

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Vol 210 No. 5

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August 2, 1956

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TESTING RESEARCH WORK IN PRACTICE

THERE is an understanding between the Building Research Station and the National Federation of Building Trades Employers by which members of the Federation will undertake from time to time to try out in contracts the results of research work carried out at the B.R.S.

The results to be tested in full scale trials of this nature are only those which have stood up to all the tests that were imposed at the B.R.S., not only in the laboratory but also in what limited full working trials it was possible to carry out. These are therefore not so much experiments to determine whether a material or a process will remain successful in practice (that will already have been decided within reasonable limits of certainty) as further exercises to formulate a body of knowledge on the best methods of application and the relative economics of the processes involved.

So far as this initiative may add to the total knowledge in the Industry and perhaps contribute to the reduction of building costs by bringing new and cheaper materials and processes into everyday use, it is to be commended; but there is one aspect which should not be overlooked. The building owner is the man who pays the piper and it must be for him, if not to call the tune, at least to approve the composer. The contractor should, and no doubt does, let the architect know what he has in mind, and will seek to carry the architect with him.

It has been said that some architects have proved reluctant to allow these trials to be conducted on jobs under their direction. This may be so; but it would be worth going a little deeper into the matter and finding out the reasons for that reluctance. The architect's function is to watch the interests of the building owner in such matters. Not only must he, himself, be satisfield that a particular trial will be unlikely to prejudice the complete job or run the building owner into avoidable expense, but he must also convince the building owner. It would be quite improper for an architect to approach the matter in a less responsible spirit. A building owner may be hard to convince. He may want something already tried and proved by time and custom. There may even be individual owners who will blame the new process, although successful, because they were not consulted about it beforehand. It may well be much easier for the architect to give way to the building owner and rest in the safety of techniques proved by past use.

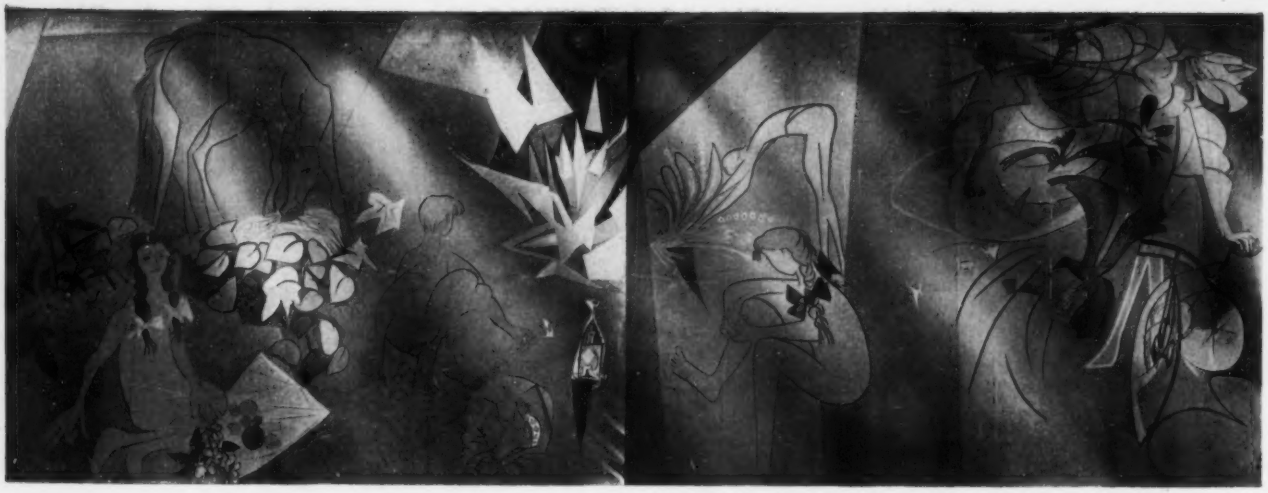
If he does, he will be equally blameworthy. He may owe a duty to his client, but he has a duty also to the Profession and to the furtherance of architecture. He must do all in his power to help on the development of new materials and new techniques. One way of doing so is to give them a fair trial whenever circumstances permit.

A second and equally important consideration is to disseminate information on the results of trials. Much can be done through the technical press. More still can be done later on through a symposium or a more extended conference devoted to a survey of a number of such trials.

Both the architect and the contractor can do much to help on the work of the B.R.S., but neither, separately or together, can provide a complete answer. The building owner will so often be the final arbiter. The most powerful argument that can be used to convince him is money. To say that such and such may ultimately prove an economy, if not in the present project then in some future one when the process has been perfected, is not enough. What would convince him would be a subsidy on that element of the contract concerned with the full scale trial of a new material or technique. It is easy to say that the present financial climate is not suitable for such a suggestion. The reply to that is to ask what advantage anyone gets from the already considerable Government expenditure on building research if everything is left at the laboratory stage. Unless enough is spent to carry the work fully through field trials, all is wasted.

Is not this a matter on which the Industry's representatives on the National Consultative Council might make representations to the Government?

F



A gay and spirited mural by Ceri Richards at Worthing Technical Night School. Repulsive ?

EVENTS AND COMMENTS

REPULSIVE?

My picture shows what seems to me to be a gay and spirited mural by Ceri Richards at the M.o.E. designed Worthing Technical High School at Berrington. It was I believe completed in May 1955. I have not seen the original but I can imagine from my knowledge of Mr. Richards' work that it is very bright and cheerful in colour. Its theme is the basic elements shown in a way to interest children.

I am afraid that I should have known nothing about the painting had it not been for a note in *The Times* recently in which a Mr. H. L. Frampton at a meeting of the Worthing Education Committee was quoted as having described the mural as " repulsive and distorted." The committee decided that before murals are placed in any more of their new schools they will demand the right to approve or reject them. It appears that Mr. Richards' design was not submitted for approval. In the circumstances that was most fortunate.

JOLLY HOLS

Councils and major committees held their last pre-holiday meetings weeks ago and sub-committees, those usually one-man organisations have since then been struggling to cross t's, tidy up ends and write up minutes before the annual scattering. The difficulties of sub-committees are endless. In the first place they are the next higher formation's let out and are often hastily formed when a committee looks like sticking on a point at five minutes to five on a Friday. Their terms of reference are not frequently wide and general and give little indication of what will be expected by way of report when everyone awakens from the big sleep in October. Keen chairmen of sub-committees bully their secretaries to call meetings so that, although nothing could possibly be settled in the time, they may go to La Baule or Brightlingsea with clear consciences. Secretaries in their turn possibly with half a dozen such sub-committees to put to bed hope very much that they will find their notes written in June comprehensible in October.

You lucky fellows who are neither chairmen, members nor secretaries of committees do not realise just how fortunate you are. Most of the family men will be off with bucket and spade, schnorkel and flippers, tennis racket and golf clubs, or marlin spike and Nautical almanack according to their tastes, susceptibilities and/or financial situation. I shall be with you, perhaps we shall meet. If we do and you are carrying, in addition to your holiday load above, a current copy of the A.&B.N. and address me as follows, while bowing slowly three times, "Good morning, Mr. Abner. How d'ye do" I will fetch you a smart clip on the ear (and no returns). To one and all, jolly hols!

BR DINING AND BUFFET CARS

The prototype dining and buffet cars with kitchens shown at Marylebone Station last week by British Railways are most disappointing. As far as the technical part of the cars goes, I have no comment. The Hotels and Restaurants people want it like that. One vastly important innovation, however, is a large bottle cooler in each bar. Let us hope that the size is adequate for cold drinks to be served throughout the journey and not simply during the first hour.

The general design and furnishing of the passenger accommodation could hardly be less imaginative, and although some of the colours used are quite pleasant the overall effect is once again of far too much going on. This gives an unrestful appearance. The heat insulation of roofs using glass fibre quilt will undoubtedly help both in summer and winter. There is no sign of acoustic treatment. The 'leaning post' illustrated in one picture (p. 161 bottom left) defies des-

cription and the detailing of the ceiling over the bar is ugly and heavy.

No, sirs! You are still a very long way from a high enough design standard.

F L W

I did not manage to see the great man when he was here, but I spoke to him on the telephone, or more correctly he spoke to me. "We shall be coming back," he said, "but time is running out. I have seen the architecture at the Academy and I am sad and disappointed. Architecture is going up a one-way street to a dead end. The AA school might be able to do something about it, but I doubt it. This thing must take its course. The young man and architecture are very close to my heart. I haven't much time for the old fellows as you know. As I said to the American Institute of Architects the other day, 'if it were the Institute of American Architecture it would be different'. I have never joined the A.I.A. . . . Goodbye." During this little ovation I was only able to put in a weak yes, sir . . . no, sir, here and there. He did not appear to notice.

ROYAL DOLL'S HOUSE

Sir Herman Lebus, the furniture manufacturer, recently presented a doll's house to Princess Anne. It is six feet long and two feet high. It has electric light, radio and running water. The model was designed by James Cubitt and Partners and the design was based on their Library Board Bungalow at Accra. The furniture was designed by Harris Lebus and Company.

Although the two should perhaps not be mentioned in the same breath the new model is in pretty sharp contrast to the more famous "Queen's Doll's House" designed by Sir Edwin Lutyens in the twenties. The latter, however, was very definitely not for children to play with.

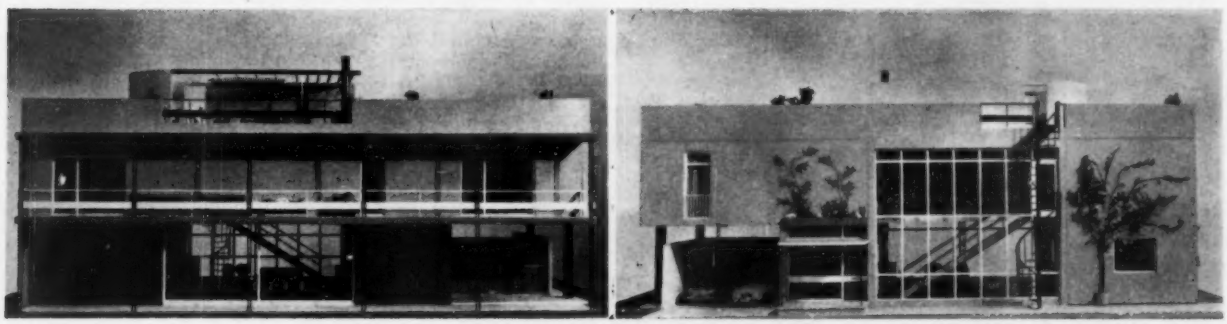
SIR GORDON RUSSELL IN MOSCOW

The director of the C.o.I.D. is in Russia with a small British Council party. He is exploring the possibility of organising exchange exhibitions of industrial art. I am sorry it is not the winter, for I would have liked to see Sir Gordon in a fur hat.

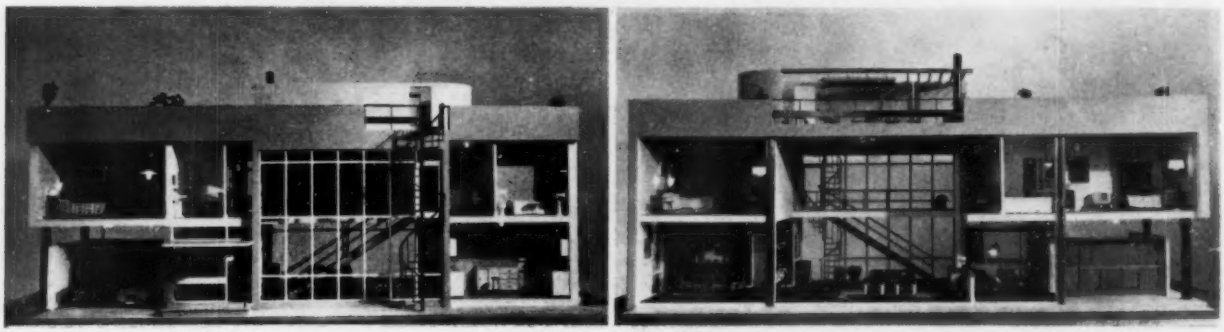
OSTERLEY PARK

This odd and lovely Adam house which is now an adjunct of the Victoria and Albert Museum, was seen at its very best the other evening when the Architecture Club held a reception there. The weather was perfect enabling the architecture to be viewed from within and without in complete comfort and perfect conditions. On one side of the building the peculiarly beautiful effects of the setting sun on the pink brick could be contrasted with the rich dark greens of the beautifully kept gardens while on the other the rising moon provided the illumination of a fairy night scene.

Continued overleaf



The model of a doll's house presented by Sir Herman Lebus to Princess Anne and designed by James Cubitt & Partners.



The lighting of the building is very largely by candles and the effect is most beautiful. If you have not visited Osterley you should do so. I particularly recommend the long gallery, the library and the state bedroom. The massive planked floor of the gallery is a dream. The whole place is most beautifully kept.

MOSCOW BUILDING EXHIBITION

The 1956 Moscow Building Exhibition has just opened. My picture shows some pretty solid chunks of prefabricated architecture, well able, I should have thought, to stand up without the temporary braces. The architect, in white hat, has just said to the client on his right. "I'm sorry, Tovarich, if your house is less beautiful than the one opposite, but some of the key parts are temporarily out of stock. However, you will observe that I have not forgotten the staircase!"

BOXGROVE HOUSES

On this page you will find a letter from Mr. B. Hallwood Lingard criticising an article in the *Manchester Guardian*. The subject of the article was the exhibition of Boxgrove Houses at the Building Centre recently and now illustrated on another page of this issue. These houses designed for cheap construction by Mr. Vincent Vincent, have been detailed and generally spruced up by three eminent architects, Sir Giles Scott, Mr. Basil Spence and Mr. F. R. S. Yorke.

The houses are intended to be built by any builder, the Boxgrove Company providing the drawings and specification for a fee. Apart from Mr. Hallwood Lingard's objections to the *Manchester Guardian* article there have been loud cries of rage elsewhere. These cries have been mainly against the architects for co-operating with what amounts to a speculative builder. Allowing for the fact that a house bought off the peg is unlikely to fit site or client so well as one made to measure, it is surely not harmful for an architect, to attempt with more or less success, to improve a builder's design. I have seen two of the houses and found them roomy and convenient. Indeed I liked one of them very much. The danger, as I see it, is that the public may be misled through its own inevitable stupidity, in being unwilling to read what is placed before it, into thinking that these houses are the original conceptions of the three architects whose variations on the builders' theme are offered by the company. It seems to me that these designs would have been less good had the three architects not been consulted, and that is to my mind sufficient justification for their having taken part in the scheme.

ABNER

A section of the 1956 Building Exhibition in Moscow.

Correspondence

Small House Design

Dear Sir,—One becomes a little tired of hearing that the design of small houses cannot be made to pay by the practising architect but the assertion that for this reason, architects are unlikely to complain about the scheme for small houses illustrated recently in the *Manchester Guardian*, is really too much.

A growing number of people realise that every site and every family produce their own set of conditions for the perfect house. It is for this reason that the scheme is eventually bound to prove unsuccessful. Clients are not likely to pay £100 for a stock set of drawings and specification, when for £240 (on a £4,000 house) they can have a house individually designed, tailored to their own particular needs and supervised throughout and after construction. There is little likelihood of the scheme causing architects any concern from the financial point of view but the article cannot be allowed to pass without comment.

Many private architects rely on private housing for a substantial part of their business, not only making this work pay, but also getting a great deal of pleasure from designing completely individual houses for particular sites.

To say that architects are not interested in small private houses is completely untrue. Some of the larger firms may find the supervision of a contract for a small house rather irksome but this is only because the office organisation is geared to larger contracts. The small and medium size office whose architects are interested in private housing will always give far more than value for their fees by good planning, structural economies and the supervision of accounts. They will also gain financially from the work by the efficient organisation of the contract.

Yours faithfully,

B. HALLWOOD LINGARD.

NEWS

Upwards, Outwards and Allhallows

DISCUSSING his 34-storey hotel project for Portman Square some weeks ago (see A. & B. N., 10.5.56) architect Leo Hannen expressed the view that his scheme had reasonable chance of L.C.C. outline approval but "might have a few storeys lopped off its height" in the process. A 19-storey revised outline scheme has now received L.C.C. blessing and the opinion of the Royal Fine Arts Commission has been sought. Detailed drawings have yet to be approved.

To time with this report comes news that Birmingham's City Council have approved in principle a new town to take the city's overspill population. The scheme is being forwarded to the Minister of H.&L.G. whose support is needed to further the project. Already the Council have approved agreements with 14 adjoining local authorities to accept upwards of 40,000 of Birmingham's overspill population.

Kent's private enterprise new town at Allhallows-on-Sea (proprietors, the Dolphin Development and Management Co. Ltd., among directors—W. Eric Adams, late general manager, Harlow New Town, A. P. Costain and Sir Howard Roberts, late Clerk to the L.C.C.) will also require a decision from the Minister; it conflicts with the Kent Development Plan. Kent County Council's planning committee are to consider a report by soil scientist Mr. B. S. Furneaux on the farming value of the proposed town's 900 acre site which includes the village of Allhallows (population 400 plus week-enders). If the scheme goes ahead a target population of 25,000 people is the reported aim. This would help Kent's Oil Refinery some 2 miles distant and other industries new to the Isle of Grain. There would be schools and other amenities; holiday makers and trippers would be made welcome and catered for.

New Town Architect Appointed

What is one old town's loss will be a new town's gain when Canterbury's City Architect Hugh Wilson becomes the first chief architect and planning officer to Cumbernauld New Town in Scotland. Hugh Wilson has been at Canterbury since 1945.

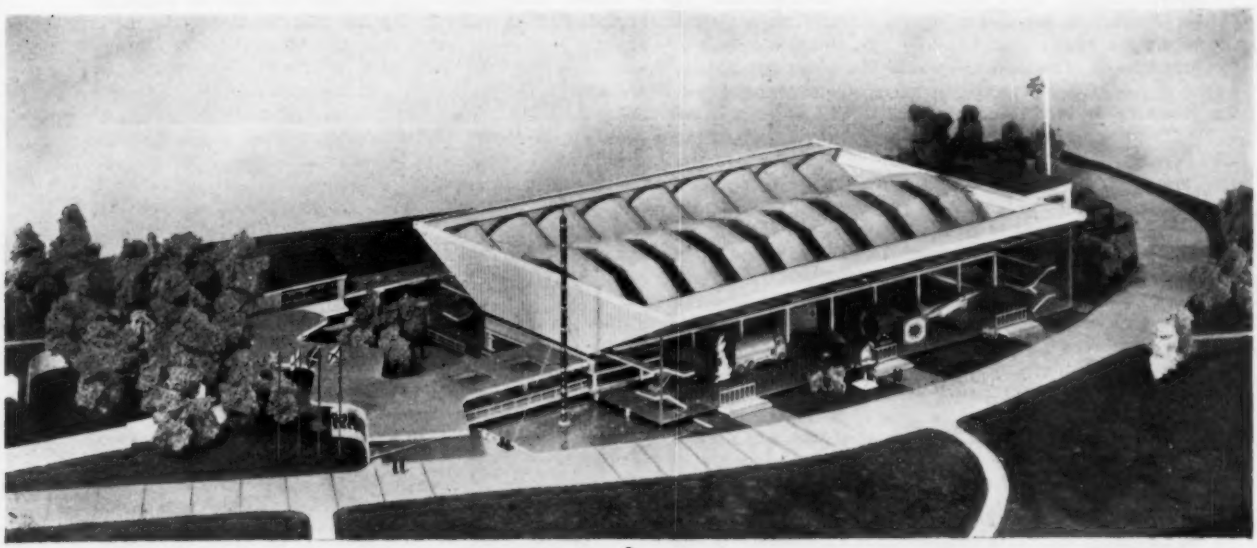
Regency Exhibition Brighton

"To the spotless memory of Mrs. Fitzherbert," with these words Councillor A. J. Sadler, Chairman of Brighton's Royal Pavilion Committee proposed a toast to the twice widowed lady who lived and died (aged 82) at Brighton, whose third marriage (in secret) to the Prince Regent was never recognised in law and whose 200th birthday anniversary was celebrated last week with a Civic luncheon and the opening of the annual Regency Exhibition in Brighton's Royal Pavilion.

Sir James Mann, Surveyor of the Queen's Works of Art; Director of the Wallace Collection, opened the exhibition which has been much improved by loans of all kinds, including permanent loans of works of art from Buckingham Palace and furniture which was designed for the Pavilion but removed in 1840 by order of Queen Victoria.

The Brighton Corporation purchased the Pavilion from the Crown in 1850. The idea of a Regency exhibition was inspired 10 years ago by Lady Birley and a friend. The Director of the Pavilion, Mr. Clifford Musgrave and his staff have devoted much time to most successful restoration work—example: the long staircase hall now has its walls in the original pale blue floral design on pink instead of the apricot and green which replaced it in 1877—small wonder that 180,000 people visit the Pavilion in a year and thereby contribute about £5,000 per annum to Brighton's rates.

A model of the proposed British industrial pavilion at the Brussels International Exhibition, which is to be held from April to October 1958. The architects are Edward D. Mills & Partners and the interior designers are John Lansdell, M.S.I.A., and Arthur C. Braven, A.R.I.B.A. This pavilion is being organised by the Federation of British Industries. There will be a separate British Government pavilion on the same site.



News Continued

Brighton's Mayor, Councillor Lewis C. Cohen, J.P., speaking at the opening, accused his Council of not appreciating this priceless heritage. The exhibition was on for too short a time (3 months), he thought; it should go on for at least six months.

New Baths Coventry and Keighley

This week we published on another page the revised proposals for the new Central Baths at Coventry. Keighley Town Council who met last week also have given approval for a new scheme for a first class swimming bath to replace the existing one at Keighley. The scheme is to be prepared by the Borough Architect, E. F. Felgate, and the Bath's Superintendent, R. Sandsford.

Historic Churches Preservation Trust

The Rt. Hon. Viscount Esher has accepted office as Chairman of the newly created Grants Committee of the Historic Churches Preservation Trust.

The Committee's function will be to consider appeals for help towards the cost of necessary repairs from churches and nonconformist chapels throughout the country.

Lord Esher is a distinguished antiquarian and is an Honorary Fellow of the Royal Institute of British Architects. For many years he has been Chairman of the Society for the Protection of Ancient Buildings.

Announcement

Basil Spence, A.R.A. & Partners, will be opening a new office at 1 Canonbury Place, London, N.1 (CANonbury 7175) on September 3, 1956. They will be pleased to receive trade catalogues. This is in addition to the present offices at 48 Queen Anne Street, London, W.1, and 40 Moray Place, Edinburgh 3.

Law and Administration

Wholesale Prices

Every month the Board of Trade publish in their Journal a wholesale price index. These index numbers are widely used for price adjustment purposes in contracts both at home and abroad. The index particularly enables contract prices to be varied to take account of fluctuations in the price of raw materials. As contracts are often made to govern transactions for many years ahead any change in the basis of these index numbers is a matter of importance. The Board of Trade have therefore given ample notice that they intend to change the basis of these index numbers in 1958 at an exact date yet to be fixed.

The new series of index numbers will be based upon prices ruling in 1954, instead of 30th June, 1949. The year has been chosen because of the information made available by the Census of Production, taken in 1954, and because prices were relatively stable in that year. To assist contractors in effecting a transition from the old basis to the new the Board are prepared to consider the issue of a transitional set of figures for a year after the introduction of the new basis. The Board have asked that any firm or trade association which desire temporary continuance of selected indexes should write to the Director of Statistics, Board of Trade, Horse Guards Avenue, Whitehall, S.W.1. They should specify the index they wish continued and give their reasons.

Housing Subsidies

Earlier this year *The Housing Subsidies Act, 1956*, received the Royal Assent. This Act, broadly speaking, ended the payment of subsidies on houses built for general needs, subject to a transitional arrangement, but made special provision for particular kinds of house. The Ministry of Housing and Local Government have now issued *Circular 33/56* to explain the operation of this Act. This Circular, which is a fairly long document, contains several useful features. There is a short outline of the most important parts of the Act, a series of notes on the sections of the Act, several memoranda on the administration of particular provisions, and, lastly, a statement of the condition of grant approved by the Treasury.

The memoranda on special provisions of the Act are very useful. Each memorandum gives an outline of the manner in which the Minister at present intends to operate the power to pay subsidies in special cases. These special cases include dwellings to replace slums, camps and temporary accommodation, dwellings built under Town Development Schemes or for New Towns or to meet urgent industrial needs, flats, agricultural cottages. There are also notes on expensive sites, those liable to subsidence, and houses built with special local materials. Local Authorities will be particularly interested in the notes on prerequisities of grants under the Act set out in Appendix VI. This Appendix describes the records which the authorities will be expected to keep and the certificates they will be asked to render.

This Circular is an unusually lucid and helpful document. It is too early to say how effective the arrangements it describes will be or whether they will prove reasonable in practice. But at least the description given in the Circular of the methods to be employed in operating the Act will be widely welcomed. Those concerned with the operation of the Ministry of Housing's planning powers have clearly much to learn from their colleagues who deal with housing affairs as far as Circulars are concerned.

Planning Appeals

Recent deterioration in the management of planning appeals has led many to suppose that the number of these appeals is now so great that the Ministry is no longer able to cope effectively with them. The external signs are many: increased delay in replies to letters, increased delay in hearing the appeal, increased delay in making a decision; confusion and often inaccuracy in correspondence; failure properly to instruct the inspector on matters he should have been told of before the hearing; last but not least a marked decline in the quality of decision letters.

Confirmation that the number of appeals is too great to handle now comes from an unusual source. *A Senior Inspector* of the Ministry of Housing *Mr. Elliot Fitzgibbon*, recently retired, has written an interesting article in the Estates Gazette of 14 July. He speaks in his article of the number of appeals that are "already swollen to an unmanageable volume which bids fair to destroy the value and efficiency of the entire system." He also refers to his belief that "the department in which appellate jurisdiction resides is at its last gasp for breath in the flood of appeals that has well-nigh overwhelmed it." This is

Continued on page 160

Boxgrove Houses

THE stated aim of Boxgrove Houses Ltd., the company who sponsor the scheme, is to assist the many people who would like to build their own house but feel they cannot afford the luxury of having one specially designed for them. The company markets, on a royalty/services fee basis, plans for a range of detached houses, designed from a specific layout plan and form of construction, for which copyright is registered and patents are pending. The idea differs from existing plan marketing schemes as you do not make an outright purchase of the Boxgrove plans and documents.

The company provides complete detailed plans and full specification and schedule of quantities, for a range of houses. The elevations and certain internal features have been detailed by leading British architects commissioned by Boxgrove Houses Ltd., using the Boxgrove standard dimensions and layout plans, and as each house has characteristic features throughout, the range is intended to meet widely differing tastes.

The company's experience has been that these houses can be completed within four to five months from start of building in fairly normal site and weather conditions.

To deal with general supervision Boxgrove Houses Ltd. insist on the appointment of a qualified architect.

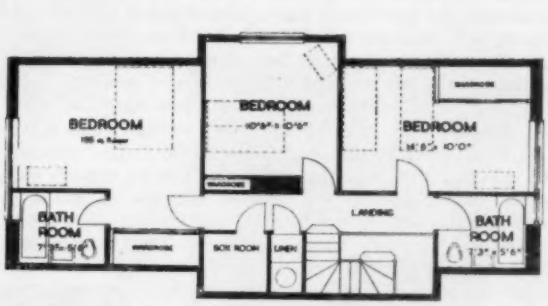
No Royalty/Service fee is payed direct to Boxgrove Houses. The builder, having been instructed in the Specification, allows for and includes this sum (which varies from £75 to £125) in his tender or estimate to the building owner and the builder is required to pay it to Boxgrove Houses Ltd.

To ensure that every Boxgrove House is built in accordance with the architect's original conception, Boxgrove Houses Ltd. have on its staff a fully qualified architect and technical assistants to advise on permissible substitutes where the original specification cannot be entirely followed in certain localities, e.g., type and colour of bricks and roofing tiles.

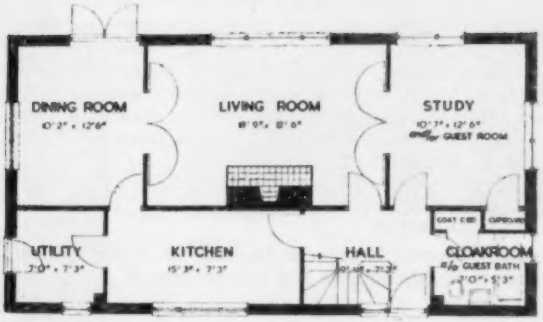
The same House by Sir Giles Gilbert Scott

Boxgrove House detailed by F.R.S. Yorke

Similar House detailed by Basil Spence



The Boxgrove House standard plans



Law and Administration

Continued from page 158

interesting testimony from a man who has handled more than a thousand of these appeals and has only recently left the scene.

Development Plans

The Minister of Housing has now approved Development Plans for the County of *Lancashire* and the County Borough of *Bournemouth*, both with modifications. These two approvals reduce to 56 the number of Development Plans which have been subject to inquiry and await the Minister's approval.

In Parliament

School Building Hopes

The Minister of Education offered some reflections on school building progress in the debate on the education estimates on July 25.

Over the past two years, he said, authority had been given to start considerably more work, but in the event, although the value of building under construction had increased the value of work completed had not kept pace. That had meant that the time taken to build a new school had lengthened, and the carry-over from year to year had increased.

The value of work outstanding rose from £48 millions in March, 1954, to £74 millions in March, 1956. The decrease in speed of building was due to the embarrassment caused to local authorities by the investment boom. Shortage of labour on the sites affected almost all authorities. Many were also in trouble owing to the shortage of architects and draughtsmen, which must have been a considerable factor in the delay in starting schools that had been authorised.

Last March, in addition to £74 millions worth of work outstanding, there was a carry-over of £32 millions worth authorised but not started, and a programme of new schools costing £57 millions for 1956-57. In these circumstances school building might well have been asked to accept a moratorium. But he had authorised new schools to be started at about the same rate as the actual starts last year, £55 millions. Last year this rate was too high, since it led to a lengthening in the time taken to build. By repeating the same numbers this year they would make matters still worse—unless there was a general reduction in building work in other directions.

That was what they were counting on. They believed the measures to curb inflation were going to succeed. There were already small signs that work on school sites was proceeding faster. If there was evidence that the rate of completion was improving, then the door was open to review the number of starts. It was with the need to fight inflation in mind that he had decided the cost limits per school place must be kept down. He had no evidence that this must lead to a significant lowering of standards, as some people had said. Most authorities had kept well within the limit. He did not accept that £12 or £25 a place, in a school costing over £260 a place, could not be saved by efficient planning and execution.

Credit Squeeze

Mr. Chapman asked the Minister of Works to what extent the credit squeeze had now resulted in a fall in the values of private building. Mr. Buchan-Hepburn replied that it was too early as yet for any reduction to have shown itself in the volume of private building work actually being carried out. Nevertheless there were indications that but for the credit squeeze appreciably more new private building would be coming forward. (July 24).

Double Windows

Mr. Vane asked what advice the Minister of Housing and Local Government had given to local authorities regarding the advantages of double windows in public buildings or housing estates, both in the interest of the comfort of the people working or living in such buildings and because of the substantial savings in fuel which would be possible. Mr. Sandys stated that advice to local authorities had been confined to thermal insulation of roof space, floors and walls, since this gave greater heat savings for the expenditure than double-glazing and involved no additional maintenance cost. (July 24).

Timber Market

Mr. Vane asked the President of the Board of Trade what consultations he had with woodland owners in the United Kingdom before deciding to release large stocks of timber from the strategic reserve, thus endangering the stability of the home market. Mr. Derek Walker-Smith, the Parliamentary Secretary, told him that the association representing woodland owners were told in confidence of the Board's plans for release of hardwood at a meeting of the Home Grown Timber Advisory Committee on April 25, and were invited to make any representations they wished. No such representations had been received. He had no reason to think that the releases of timber endangered the stability of the home market. (July 24).

Thames-side Highway

The Minister of Transport told Lieut.-Col. Lipton that, in consultation with the Ministry, officers of the L.C.C. and the Port of London Authority had examined the technical aspects of the plan for a riverside highway from Blackfriars to Battersea Bridge, and had made a preliminary report which was now being considered. Lieut.-Col. Lipton reminded the Minister that he wrote a glowing introduction to a pamphlet on this plan in which he said that he was keenly interested in "this bold and far-sighted idea." He also asked how soon a decision on the report could be expected. Mr. Watkinson said that he welcomed anyone with good and new ideas about solving London traffic problems, and he therefore welcomed the initiative which caused this study to be made. That did not mean that he could go further with it until he had the benefit of the views of the experts. As soon as he had them he would consider them and announce his decision. (July 25).

Safety Regulations

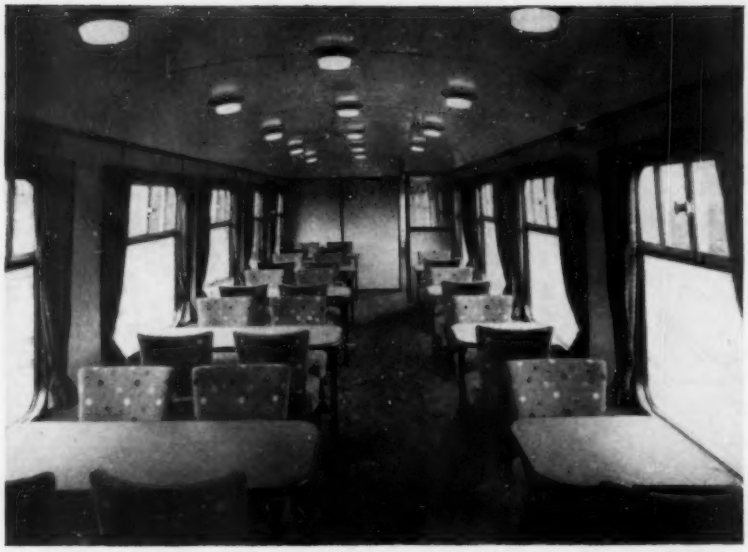
Mr. Moyle asked the Minister of Labour if, in view of his intention to review the safety regulations of the building industry, he would invite the representative of the National Federation of Building Trades Operatives to consult with him on the matter. Mr. Robert Carr, the Parliamentary Secretary, said that there was no present intention to undertake any general revision of these Regulations, which were made in 1948, but revision of certain points was under consideration. His officers had already had discussions with the National Federation of Building Trades Operatives, and there would be further consultations if required. (July 26).

New Dining Cars

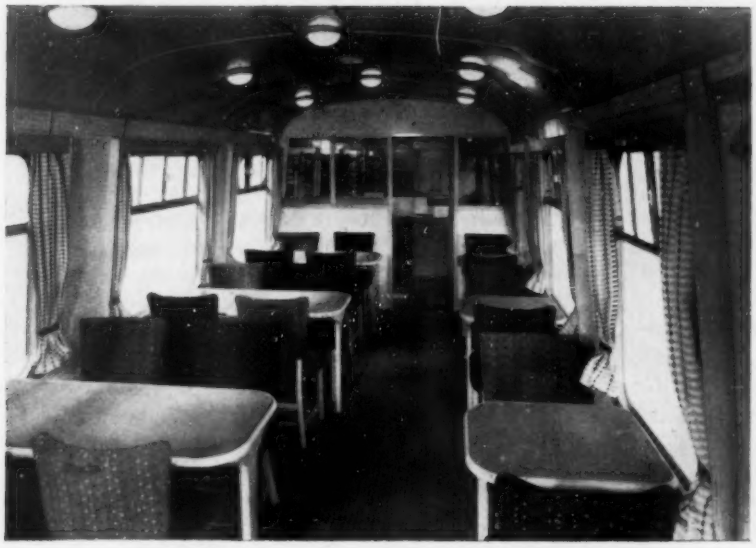
BRITISH RAILWAYS

British Railways shunted three of their new dining cars alongside Platform 4 at Marylebone on Thursday afternoon, July 26, for inspection by the Press. These pictures show what the new coaches look like inside. They are all prototypes and were built at Eastleigh Carriage and Waggon works for experimental service on the Eastern, Western and London Midland Regions. Each car has a steel body mounted on standard 64 ft. 6 in. long chassis, 9 ft. wide. Formica and Perstorp plastic are used extensively as ceilings, wall linings and tabletops. A 1 in. thick double, internal layer of fibre glass is certainly effective insulation because although the day was hot the interiors —except for the restaurant/buffet car which we believe is unlined—were reasonably cool. Staff have a separate little dining room and in the restaurant/buffet car there is a serve yourself counter. Otherwise service is conventional.

The designs were worked out on a team basis between technical "boffins" of the B.R. hotels and catering services (comments came from cooks and waiters as well as architects and engineers). Each car cost roughly £10.000.

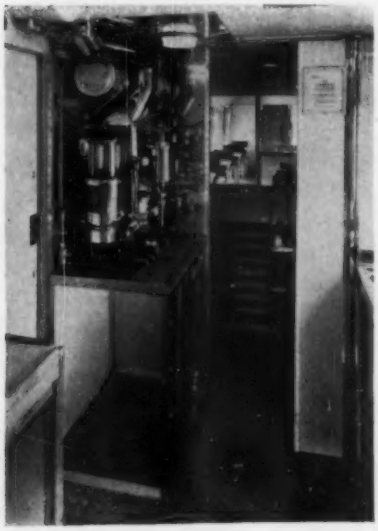


Saloon of Restaurant Car



Kitchen/Buffet Car looking towards counter

Bar of Restaurant-Buffet car. Note ashtrays on counter and coloured plastic panels, also forced draught ventilation outlets



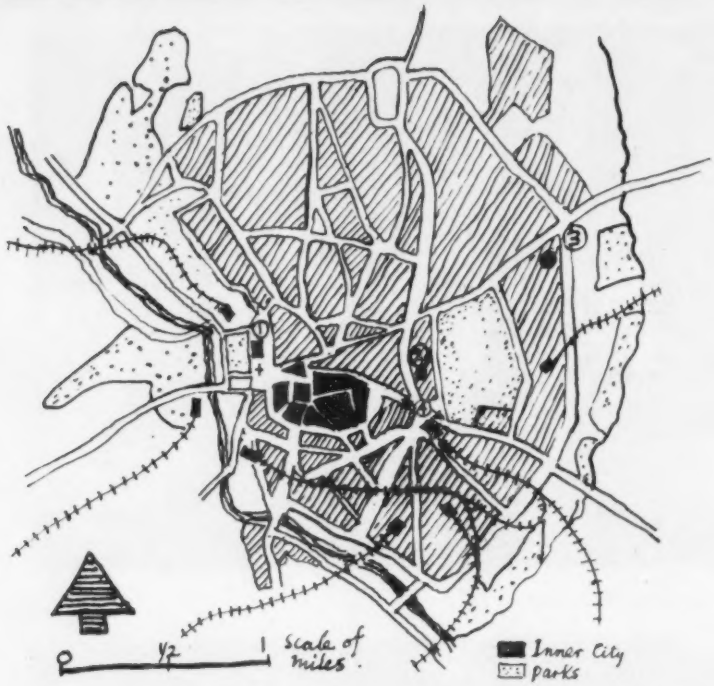
Pantry

Madrid—Architecture & Planning

By

JOHN L. BERBIERS

A.R.I.B.A., A.M.T.P.I.



Madrid. Plan of the city, **1** *Royal Palace,* **2** *Prado,* **3** *Plaza de Toros,* **4** *Calle de Alcala*

UNLIKE many European Capitals, Madrid lies almost in the geographical centre of its country. Mr. Lewis Mumford suggests that it is a City "perched like a spider in the midst of a transportation web."

Situated over 2,000 feet above sea level on the wind-swept plateau of New Castile, about thirty miles south of the Sierra de Guaderrama, the City's origin must be traced from the Arabic "Magrit" which, according to early chronicles existed here in the 10th Century. Little is known, however, about this walled settlement dominated by a fortress. Conquered from the Moors by Alphonso VI, it was built on high ground overlooking the Manzanares River, where the Royal Palace now stands; and here, in order to enjoy the pleasures of the chase in the forests of Pardo and Villaviciosa, Henry IV established his hunting seat. It was not until the reign of Philip II, during the latter years of the 16th Century, that Madrid, for long an outpost in the territory of Toledo, became the recognised Capital of a vast Spanish Empire. Nobles accompanied by their retinues, and numerous religious communities settled in the City, and by 1600, the population had grown to nearly 100,000. A period of ever-increasing prosperity ensued, when the Spanish Court ranked among the most brilliant in Europe and the cultural life of Madrid was distinguished by the achievements of such men as Cervantes, Velasquez and Caldéron.

The church of San Francisco El Grande

Many buildings were erected and projects undertaken for the Capital's improvement thoughout the 17th and 18th Centuries. By this time the 14th Century fortifications of which the Puerta del Sol formed the eastern gateway, had long since been removed, and new developments were extending the urban limits northwards and eastwards in the direction of the Court's summer residence at Buen Retiro.

Among the more important projects carried out during the reign of Philip III was the construction of the Plaza Mayor in 1619. The architectural treatment of

Barrio de la Concepcion. Typical floor plans of dwellings

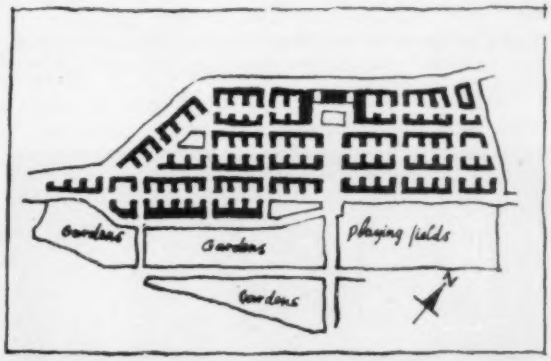
Barrio de la Concepcion

the square is suggestive of the Austrian influence which at that time characterised the majority of new buildings. Rectangular in form and measuring some 430 feet by 330 feet, the Plaza Mayor, designed by Gomez de Mora, provided the scene for many important events. Tilting matches and bull fights took place in the square, which also witnessed the proclamation of King Philip V.

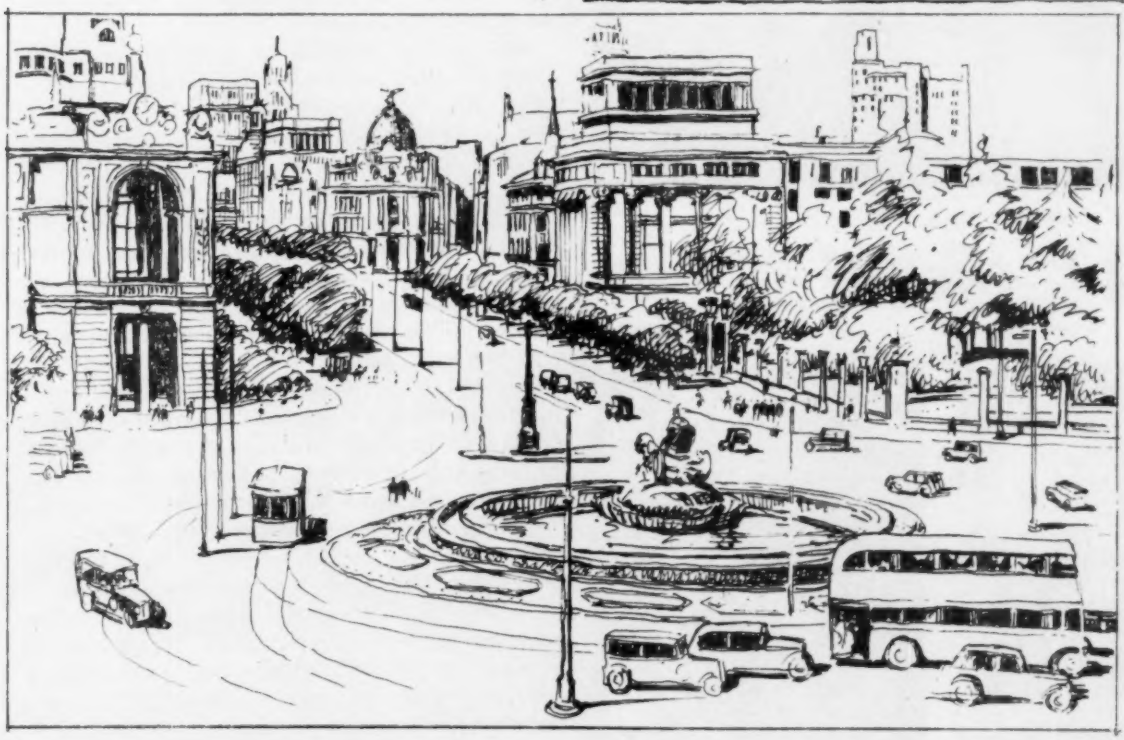
The buildings and town improvements of the 18th Century largely consolidated Madrid's position as one of the leading Capitals in Europe. Among the most impressive of the City's secular buildings to be erected at this time were the Royal Palace, which was begun under Philip V in 1737, and the Royal Picture Gallery, the Prado, designed for Charles III about 1785.

Of 18th Century ecclesiastical architecture, there are many examples. The Church of San Francisco el Grande, by Cabezas and Sabatini, has a dome said to be larger than that of the Invalides in Paris or St. Paul's in London. Among the architects who worked in Madrid about that time was Ventura Rodriguez, a leading exponent of the transition movement towards neo-classicism, and an ardent student of Vitruvius. His work included many of the streets and promenades in the City.

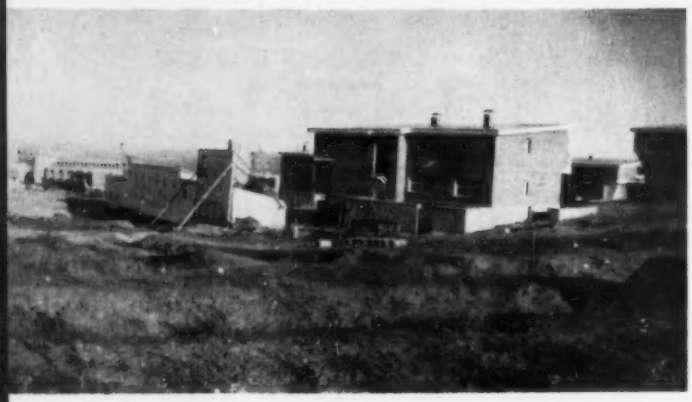
The face of Madrid underwent many changes in the



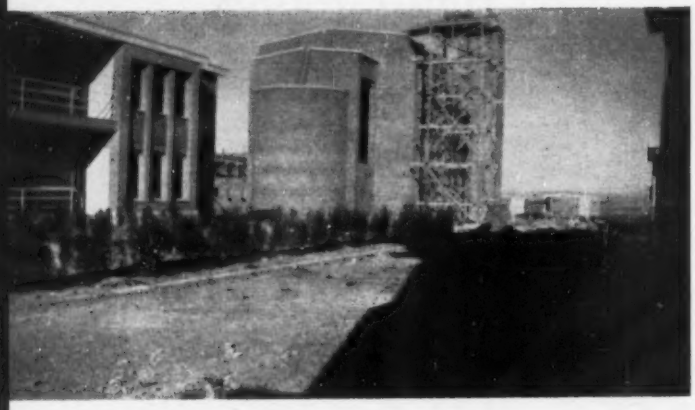
Calle de Alcala. The building on the left is the Bank of Spain, built between 1884 and 1891



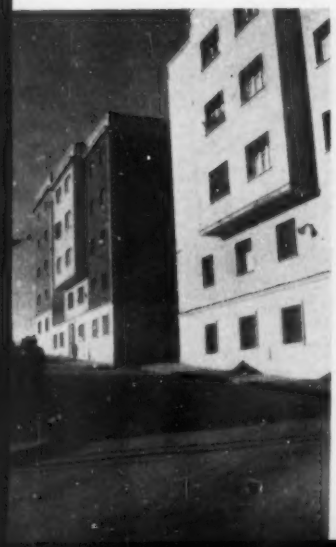
Madrid : Architecture and Planning



Housing on the outskirts of Madrid by the 'Instituto Nacional de la Vivienda.' The Estate includes a church, schools and other public buildings



The 'Barrio de la Concepcion.' An example of recent development in Madrid



second half of last Century when, following the construction of boulevards on the site of the City's 17th Century fortifications, new suburbs were developed towards the North and East.

Many of the newer quarters are now enclosed by the Paseo de Ronda and served by wide avenues radiating from the City Centre. The most important of these is the Calle de Alcala, a broad avenue bordered on both sides by acacia trees, which starts from the main traffic square and one-time eastern gateway, the Puerta del Sol, and leads to the distant suburb of Las Vantas.

A busy highway through the Centre, the Avenida de San José Antonio (Gran Via), was opened in 1930. Flanked by tall office buildings, shops and theatres, it provides a direct traffic link between the eastern and western sectors of the City. On the outskirts of Madrid, residential districts like the Ciudad Lineal have spread for several miles along the main roads; others such as the Ciudad de Puerto de Hierro, suggest the influence of the Garden City movement.

A recent, though not particularly imaginative scheme is the Barrio de la Concepcion, situated to the North-East of the City Centre, and planned to accommodate some 20,000 people. The axial road or spine in the grid-iron layout of La Concepcion is a 30 metres wide avenue which terminates in a large public square.

Development consists mainly of five-storey blocks arranged in "E" formations parallel with the streets. Dwelling costs range from 35,000 to 55,000 pesetas, payable over a period of fifty years. Perhaps the most interesting features in the planning of La Concepcion are the inclusion of classrooms for small children and a church in the residential blocks.

Reconstruction following the Civil War and subsequent developments in Madrid conform to a general plan for the City—Plan General de Ordenacion Urbana de Madrid—published in 1946. The present Municipal Building Regulations which are adapted to the 1946 Plan, and divide the urban area into thirty separate zones, were approved by the Ministry in November, 1950. For convenience they are grouped into two books, the first of which deal among other things, with general definitions and conditions for the granting of licences. In the second, precise planning conditions are given for each zone.

One of the mort important projects, already under way, will promote the expansion of Madrid towards the North, with new suburbs separated from the old City by large areas of parkland. Buildings recently completed include the new terminal at Barajos Airport and two large hotels, one a skyscraper, in the City Centre.

The streets and buildings of Madrid show little sign, today, of the struggle which brought destruction between 1936 and 1938. Nevertheless, the majority of new buildings, not only of buildings like the recently constructed Air Ministry, although bold and vigorous in their classical forms, appear to make little or no contribution in the field of contemporary architecture.

Antiquary's Logic

by BRYAN LITTLE

SINCE a recent broadcast it is publicly on record that Sir Albert Richardson carries his devotion to the eighteenth century well beyond the designing of neo-Georgian buildings, the scholarly restoration of Wren or Adam interiors, or the delivery of tirades against those whose works, to him as to Sir Alfred Munnings, are artistic anathema. We know now, not only that the P.R.A. lives in a charming eighteenth-century house, but that his personal habits and way of life take him so far into the past as to eschew electric light (except in one room where architectural students insist on it for their drawing), and to clothe himself, within the week-end privacy of his late Georgian sanctum, in eighteenth-century garments and wig.

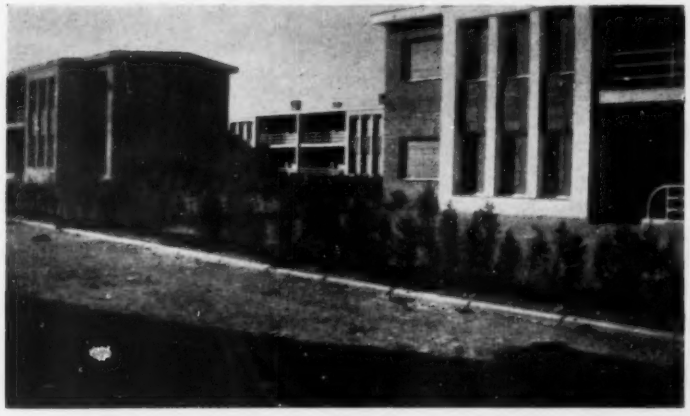
I had known for some twenty years that such were the Professor's habits, accompanied by the agreeable, normal foibles of collecting harpsichords, Georgian furniture, old ceramics, and the like. It becomes, however, a matter of more concern when the tasteful furnishing of a Georgian residence is accompanied, in the twentieth century, by the deliberate rejection, in the home of an important public man who is also a well known architect, of some of the best valued achievements of the scientific age. Moreover, the full logic of such a rejection might lead to curious, and indeed disagreeable results.

A well known lover of ancient buildings, who has only recently died, had a policy for his own beautiful home (in his case fifteenth-century and Jacobean) which was in some ways that of Sir Albert Richardson at Ampthill. He did not, indeed, dress up in outmoded costume, but in his exquisitely furnished house one savoured the excellencies of Bulgarian cuisine without the aid of any modern lighting. "Who's Who" and the directory reveal that the P.R.A. does not reject the telephone, but in this other house the owner preferred to live inconveniently without it. He did not, however, go so far as to dispense, as he might consistently have done, with modern plumbing and sanitary equipment.

For the logic of these antiqnuarian ivory towers is that one should not merely be choosily content with snuff, silver shoe buckles, powdered wigs, or the softness of candlelight. To be consistent one must sacrifice much more. I do not know just how logical Sir Albert is in his home. Does he, for instance and for the sake of example, live happily amid the fuelling and plumbing arrangements of the time when his house was built? The basket grates of about 1780 are charmingly appropriate in an Adam fireplace, but they can only fitly be used with "sea coals", and with the air coursing merrily beneath their bars to ensure that no coal lasts long; the bills for such firing will not, with the prices of the 1950s, look much like those of the eighteenth century. More crucial is Georgian plumbing, or the lack of it, and all that such deprivations imply, whether in terms of sheer cleanliness or of requirements in the way of domestic staff. Water closets, for example, are said to have been introduced in Elizabethan times, but we hear nothing more of them till the 1720s, and then they got away to such a bad start in Wood the Elder's Bath that they only came in again, crude, crank and unreliable, at the beginning of the Georgian era. Nor were washing arrangements much nearer to our standards, and in any truly Georgian home a bath should still be more of an eccentricity than a wig.

The truth is that one can cast cloud upon cloud of false glamour round any past age, and that the delights of living in any distant century, however pre-atomic, can be made to seem illusion when one is brought to the realities of such things as plumbing, medicine, and surgery. In no way can the eighteenth century be more readily debunked than through its sanitation. The canvases of Ramsay or Gainsborough, with all the glory of their painted finery, can tell no tales nor emit any smells. But the truth is that in those days there were all too many people, in the best walks of life, who simply stank.

Housing on the outskirts of Madrid by the Instituto Nacional de la Vivienda, referred to on the facing page.



Coventry's Central Swimming Baths

A REVISED scheme for Central Baths, at a total estimated cost of £878,750, has been prepared for a 3½ acre site bounded by Cope Street, Cox Street, the River Sherbourne and existing property (to west) in Coventry.

The scheme, which will cater for general public use, national and international events, schoolchildren, clubs and the like, is made up of six units, main pool, small pool, teaching pool, games deck, restaurant and slipper baths. At the end of this report is a detailed schedule of accommodation which may be found useful by readers who wish to store that information. In brief, the general planning is as follows:

Main Pool

T-shaped as in the original scheme, but a full 50 metre (165ft) international racing length is now provided; has a gallery for 1,500 spectators. Diving pit is sited to give a clear length of pool for swimming but maintains segregation for diving. The pool has two shallow ends, to give two points of entry to the water, and shelves to a depth of 6ft 6in over the central portion, thus meeting water polo requirements.

Small Pool

Largely for clubs and schools as well as general public; 110ft long. Swimming may be viewed from projecting boxes at Games Deck level; here temporary seating accommodation could be provided. The pool is graded from the shallow end to a depth of 12ft 6in at diving pit.

Teaching Pool

This pool is directly accessible from the Main Entrance Hall, is planned at main bath level with south exposure, in contrast to the basement development found in many establishments built recently; has its own changing rooms for boys and girls on two floors. Intended primarily for the use of school-children undergoing tuition, but may be hired by the public for private parties.

Games Deck

Together with the Restaurant, may be used for the secondary purpose of social functions, dances, etc.; one of the Club Rooms can be converted by means of sliding folding screens into a dance band rostrum or small stage. About 500 dancers could be accommodated.

Restaurant

Overlooks the Main Pool, the Small Pool and the gardens on the south front and is planned on same level as Games Deck and promenade to spectators' gallery in Main Pool for ease of circulation and flexibility of use. A small spiral staircase enclosed in glass gives public access from the Cope Street area.

Slipper Baths

The Slipper Baths are directly accessible by staircase from the Main Entrance Hall and fees are paid at the same control desk as used by swimmers.

Changing Rooms

The arrangements for changing and clothes storage have been planned after research into methods used in the U.K. and on the Continent. All cubicles are communal and planned so that the "wet" (bathing costume) and "dry" (shoes and clothes) circulation is segregated. Clothes are stored in metal basket hangers which are handed in and collected at a central counter, thus leaving the cubicles as free as possible.

SCHEDULE OF ACCOMMODATION

Entrance Hall

40ft x 60 ft with waiting spaces and central pay desk.

Main Pool

Men: Changing Room; 198 cubicles and counters for issue and return of hanger baskets. Clothes Storage: accommodation for 1,440 hanger baskets. Pre-cleansing: Showers, 14; Urinals, 7; Lavatory basins, 5; W.C.s, 3.

Women: Changing Room: 114 cubicles and counters for issue and return of hanger baskets. Clothes storage: accommodation for 864 hanger baskets. Pre-cleansing: Showers, 9; Lavatory basins, 5; W.C.s, 5.

Pool: 165ft x 56 ft., 8 racing lanes 7ft wide. Min. depth, 3ft 3in at ends graded to 6ft 6in at centre for a length of 60ft. Diving pit; 60ft x 35ft. Overall depth 16ft 6in (5 metres). Diving boards: 10, 5 and 3 metre fixed; 3 and 1 metre spring. Control room for loudspeaker system.

Small Pool

Men: Changing Room: 65 cubicles and counters for issue and return of hanger baskets. Clothes storage: accommodation for 544 hanger baskets. Pre-Cleansing: Showers, 6; W.C.s, 2; Lavatory basins, 4; Urinals, 6.

Women: Changing Room: 39 cubicles and counters for issue and return of hanger baskets. Clothes Storage: accommodation for 294 hanger baskets. Pre-cleansing: Showers, 5; W.C.s, 4; Lavatory basins, 4.

Pool: 110ft x 40ft, 5 racing lanes, 7ft wide with side margins of 2ft 6in. Min. depth, 3ft 3in, max. depth, 12ft 6in. Diving boards, 5 metres fixed; 3 and 1 metre spring.

Teaching Pool

Boys: Communal changing room (26ft x 24ft), with 70 lockers and teacher's changing cubicle. Pre-cleansing: Urinal, 11ft length; W.C., 1; Lavatory basins, 5; Communal shower.

Girls: Communal changing room (20ft x 24ft) with 70 lockers and teacher's changing cubicle. Pre-cleansing, W.C.s, 2; Lavatory basins, 3; Communal shower.

Pool: 25ft x 40ft, depth of 3ft to 3ft 6in.

Slipper Baths

Men: Slipper baths, 23; Showers, 12; W.C.s, 4; lavatory basins, 12; Urinals, 4; Waiting space.

Women: Slipper baths, 10; W.C.'s, 2; Lavatory Basins, 2.

Games deck

96ft x 30ft with chair storage beneath club rooms and kitchen. Service hatch from kitchen.

Club rooms (2)

26ft x 16ft and 30ft x 16ft. One club room convertible to raised dais for dance bands, small stage, etc., for use with games deck.

Restaurant

Seating capacity, 116.

Kitchen & stores

Capable of preparing full course meals. Service and passenger lift to basement entrance. Staff lavatory: 1 W.C., 2 basins, and cloakroom.

Promenade

Access to spectators gallery. Cloak rooms for spectators. Men's lavatories: Urinals, 16; W.C.s, 4; Lav. basins, 8. Women's Lavatories: W.C.s, 4; Lav. basins, 6; Powder bench. Hairdressing Establishment, 18ft x 35ft.

Gallery

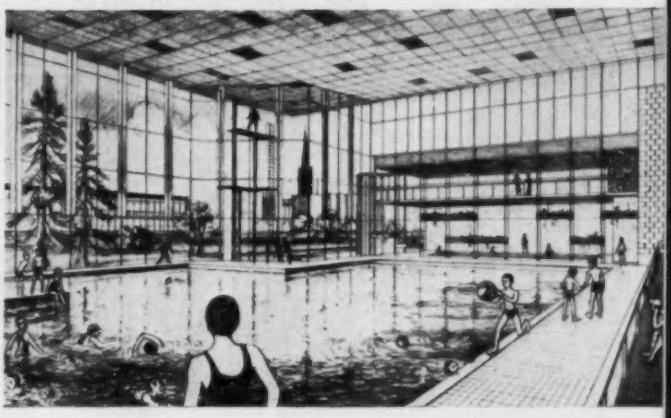
Accommodation for 1,500 spectators.

Administration

Superintendent's Office, 12ft x 20ft. Secretary's Office, 12ft x 12ft. General Office, 12ft x 8ft. General Office, 12ft x 8ft.

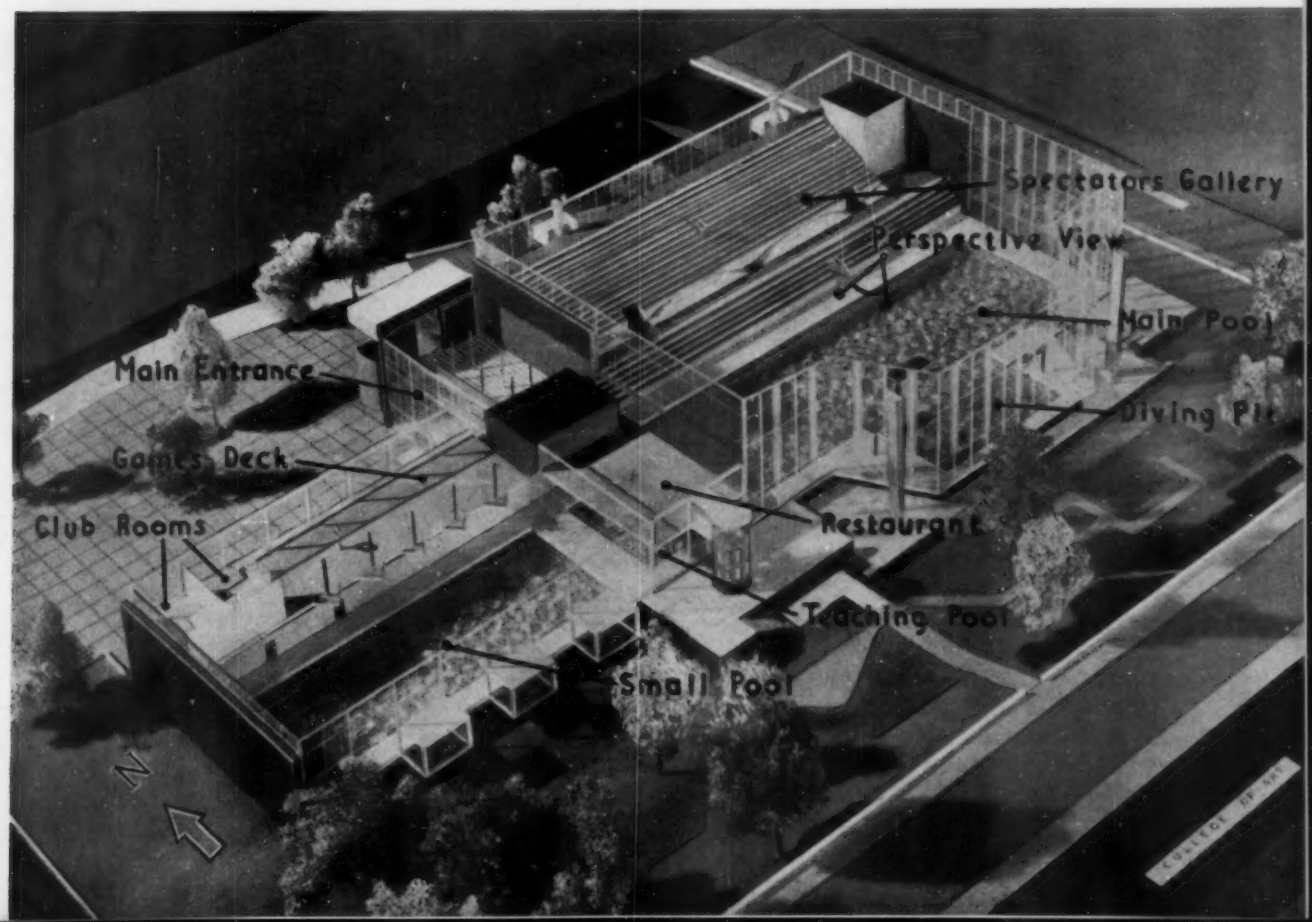
Basement

Female staff locker and rest room. Male staff locker and rest room. Clean and soiled linen store (shute system from control desk and soiled linen store). Boiler Room and Fuel Storage. Filtration and Pump Room. Plenum Plant Room. Workshop. Unloading Bay.



Interior perspective

Model of the proposed baths designed by Arthur G. Ling, City architect and planning officer, Coventry, for the City's Markets and Baths Committee



Small House at Reading

architect:

JOHN CUNNINGHAM

The Tilehurst Road and garden elevations

BUILT in 1955-56, this urban house is on part of a garden to a Victorian maisionette. With a house frontage restricted to 34 feet and with limited funds it was necessary to plan tightly and eliminate waste areas to achieve economically the 1,190sq ft of gross accommodation required. Space was also saved by placing the cloakroom and toilet under the stairs 1ft 3in below ground floor. Requirements included a south kitchen with dining space, a living room entered through the dining and reception room and means of merging the two, provision for a future fourth bedroom, and generous room heating. It was desired that it should be of modern appearance without thrusting itself on its red brick Victorian and Edwardian neighbours.

A fireplace fed by under-floor air ducts, with convection heating to three rooms, plus an Agamatic boiler with eight radiators and heated towel rail, have provided adequate warmth. This is conserved by the use of Thermalite blocks as inner lining to 10½in unventilated cavity walls, slag wool over the first floor ceiling, omission of air bricks to rooms and the use of a lobby as a warm air lock to hall. The west gable in 6in Thermalite blocks will later become an internal wall.

The dining room can be combined with the living room from which it is separated by glazed hinged doors. Internal one-stack plumbing is provided in a pipe-duct by the stair. The continuous front door surround is in reconstructed Portland Stone, with fluted asbestos-cement panels and glazed flush oak door. Flat brick coursing is carried over all openings by Dorman Long combined lintels and D.P.C.'s. Flower box is oak painted white on concealed brackets.

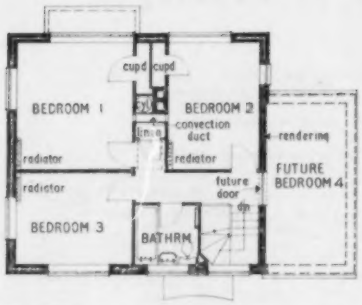
Brickwork is in varied tone red multi-pressed facings. Dark antique brown Marley sand-faced concrete pantiles form the roofing. The curved front canopy is in wood with a bulkhead light. Decorative finishes are to the new *PICRIC-RIBA* or House & Garden shades.

External painting is broken white, apart from pale blue asbestos cement panels and south eaves soffit, "sad" green garage doors and oatmeal tint rear doors. R.W.P.'s are painted to match brickwork.

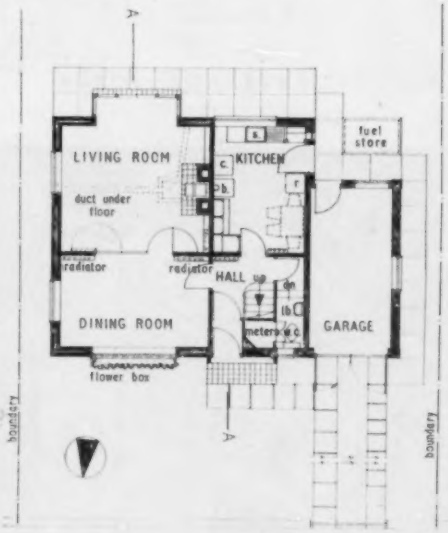
The north aspect bathroom has the sanitary fittings, eggshell wall tiles and door in matching shell pink.

Flush fitted wardrobes are provided to two bedrooms. Living and dining room floors are Windsor polished oak parquet, Kitchen floor cornflower blue Marleyflex tiles, hall floor ivory white and toilet floor straw colour in the same tiles. Two coats of Tretol bituminous compound were applied below the screed. Upper floors are 1in t. & g. boarding. The gateway is cut into an existing brick wall, the top of the brick sides being built hollow to form flower boxing. Made by a local blacksmith, the gates were treated with Glopane cold galvanising before painting in light shades. Joinery and kitchen fitments are *EJMA* standard. Heating pipes are mainly concealed or sunk in floors.

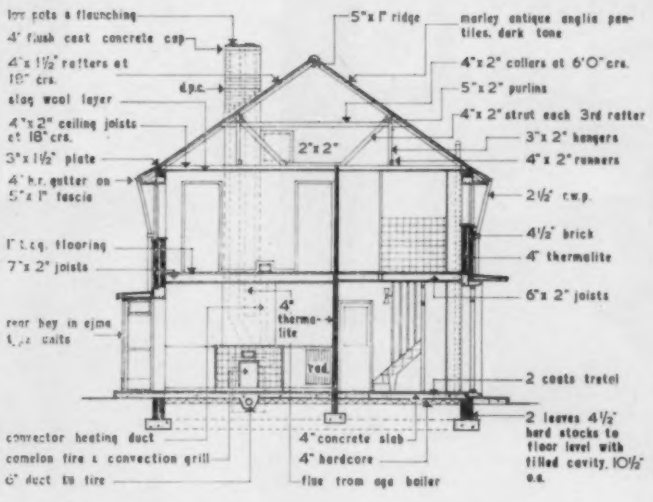
Cost based on contract figure was £3,070, including additional work in preparation for the future extension, such as 9in garage walls and foundations.



FIRST FLOOR



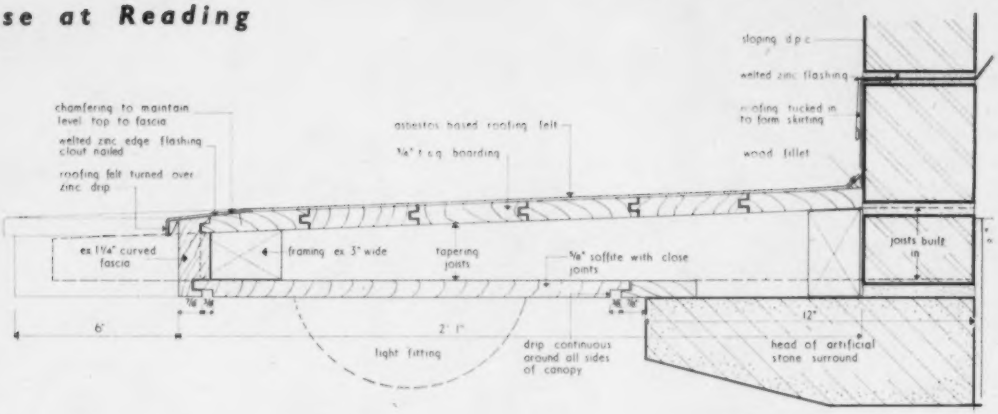
GROUND FLOOR
PLAN SCALE: 1 IN = 16 FT



SECTION AA. SCALE: 1IN = 8 FT

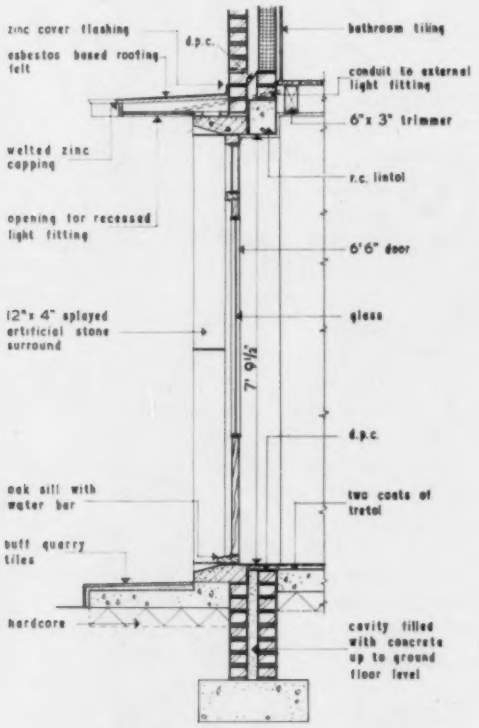
G

House at Reading

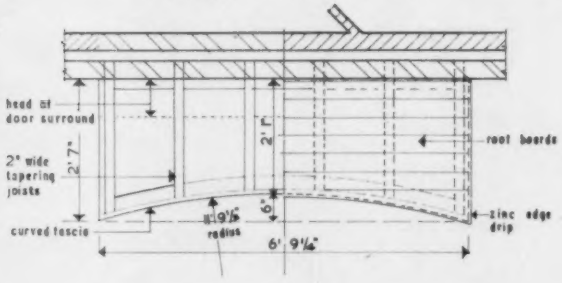


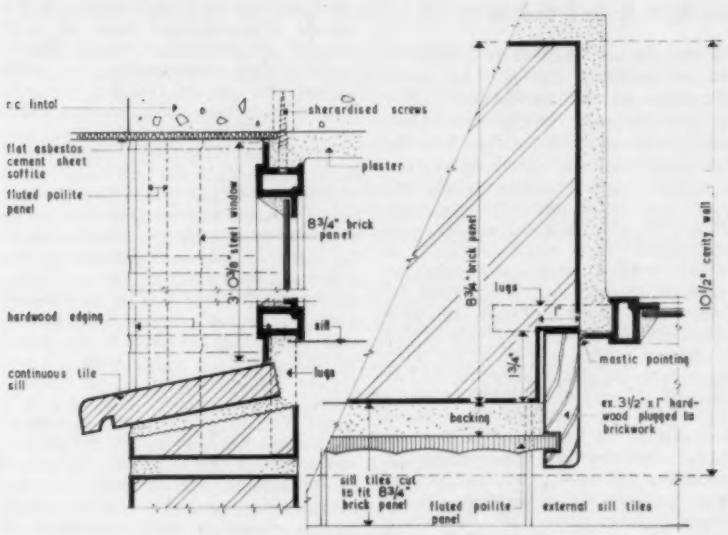
DETAILS OF ENTRANCE PORCH

CANOPY SECTION
SCALE: ½ F.S.



DOOR: PLAN & SECTION
SCALE: 1 IN = 3 FT





PLAN & SECTION THROUGH WINDOW
SCALE: ¼ F.S.

General Contractor:
Boyd & Murley Ltd.

Bricks:
Woodside Brickworks, Croydon.

Door Furniture:
F. Knight & Co. Ltd.

Electric installation:
M & H. Ltd. Reading.

Fire:
Camelon convector.

Gates:
Cromwell of Reading.

One stack fitting:
B. Finch & Co. Ltd.

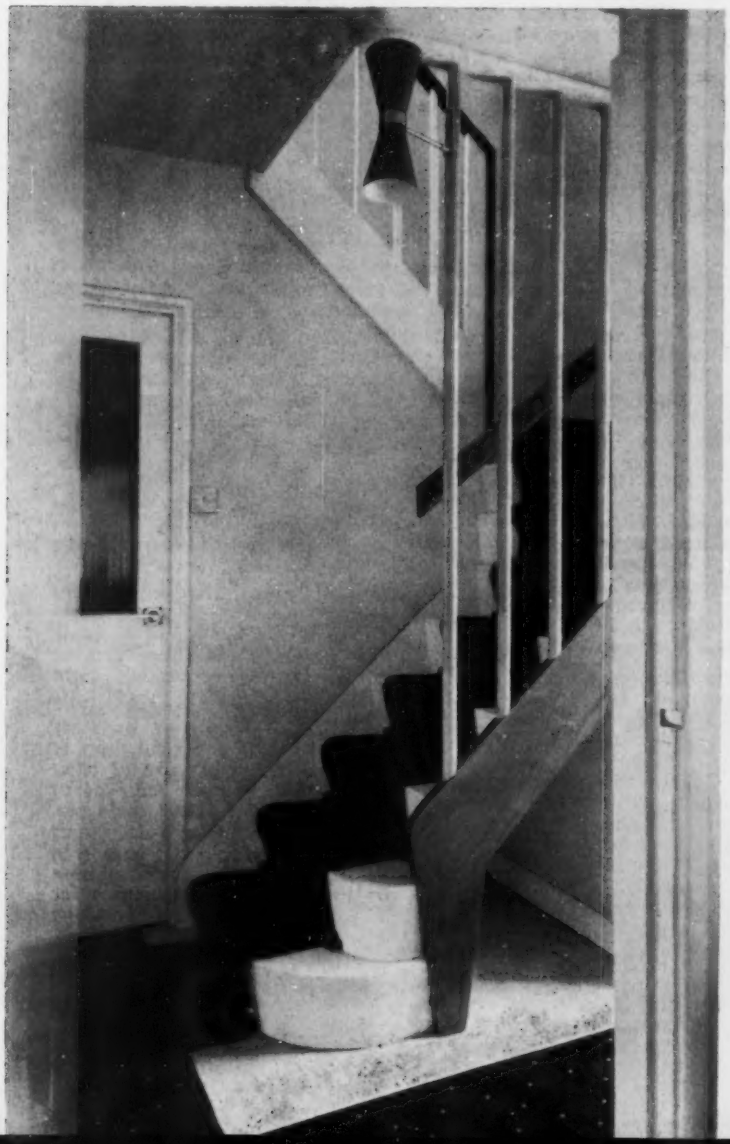
Paints:
International Paints.

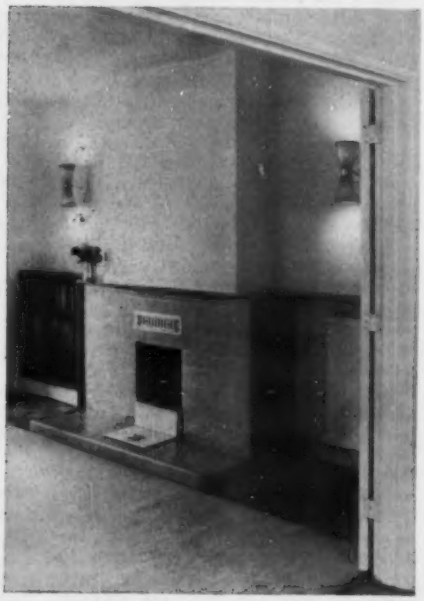
Radiators:
Steel Radiators Ltd.

Sanitary fittings:
Joynes Ltd. Reading.

Windows:
Crittall Manufacturing Co. Ltd.

Windsor parquet:
London Flooring Co. Reading.





The living room (above) is entered through the dining and reception room and the two can be combined as one by throwing open three hinged, glazed doors. Underneath the stairs is a lavatory set 1ft 3in below ground level which gave space saving on the lower floor.

Gate and Check Valves

THE Editor has sent me for my observations, copies of two recently published British Standards, B.S. 1952 and 1953, for "Copper Alloy Gate Valves for General Purposes" and "Copper Alloy Check Valves for General Purposes" respectively. It is unusual for B.S.I. to title its publications incorrectly but is certainly seems that this has occurred on this occasion. I am sure that there is no such thing as a "general purpose valve" as all valves must be related to their ultimate application; for example, a gland packing suitable for oil is unlikely to be equally suitable for water, steam or gas.

The Foreword to both standards defines the term "general purpose" as "purposes other than special or those covered by a particular application". But surely every valve has in fact to be made to suit its particular type of application even if the essentials of certain parts are the same. It would seem that the more correct titles for these two B.S. would have been "General requirements for copper alloy check (or gate) valves" and on the basis of these general requirements other British Standards for valves for the various applications could have and should even now be prepared. The idea which lies behind the issue of these two B.S. is excellent, namely the standardization of a number of manufactured parts which, when assembled together, constitute a great many valves for specific purposes. This simplification of manufacturing technique ought to produce considerable economy in production. It seems, however, that there could be further simplification from the users point of view as all the variations provided for are not needed for some applications.

What those responsible for the preparation of these standards appear to have failed to appreciate is the point of view of the user and those of us who have to carry stocks of valves to be issued for use on widely different services and under differing conditions. Each of these standards gives a classification clause, but unfortunately these have relatively little value to the buyer or stock-keeper as they take account of one factor only —namely the primary service pressure rating. To prepare a full classification to simplify the ordering of a valve for a specific application is extremely complicated, but it is something which many of us will have to do in order to relate the B.S. to our stock bins; and it would be advantageous if this full classification was also B.S. It may well occur that people not fully conversant with the use of valves might feel that all they need to do is to order and stock general purpose valves with flanged or screwed ends for the various pressures and this is likely to meet all the demands. This may create disasters in practice.

There are, in addition to variations due to pressure ratings and ends, differences in the mechanism. For example, the gate for the gate valves may be one of three types, while the check mechanism of check valves can be of two types; the bonnets and the covers may be of three different types in each standard. So it needs to be appreciated that each variant so formed needs a separate designation for stocking and use. In addition the glands and stuffing boxes of gate valves would have to be varied to suit the type of service carried in the pipes which are to be controlled. The standard sets no quality requirements whatsoever for the type of packing materials to be used, and it is quite unlikely that the tests (hydrostatic test pressures) will reveal whether or not these packings are satisfactory for the several applications, all of which affect seriously the choice of material for packing. An examination of Appendix A in each standard, which lists the information to be supplied with an enquiry or order, reveals this very great variety of valves covered by the two standards, thus making clear that from the point of view of stocking, that each will need a number of separate classification references.

From the user angle however desirable and essential, as it is, to coordinate the like requirements in each standard to aid the manufacturers in their production I feel there is a very real need for a separate B.S. for valves for each specific type of application, such as water, steam and oil, but, of course, with each of them tied to the general requirements set out in these two standards. I would strongly recommend B.S.I. to think again as these B.Ss. are only of real use to the manufacturer. What would be preferable to purchasers and users of valves would be a separate B.S. with its own B.S. number and each incorporating defined designations for the variants needed within each standard reduced, if possible, to a minimum so that those who write specifications or have anything to do with stock-keeping can specify or write an order or pick from a bin the precise type of valve for the precise purpose to which it is to be applied.

The preparation of B.S. for the very commonly used types in fields such as cold water, low temperature hot water such as normal heating, steam and gas should permit of further simplification of production and stocking by makers, merchants and users. General requirements such as those covered in these two B.S. must of necessity provide for all likely variants but such a range of variants would not be necessary in B.S. for the specific purposes.

On detail points, in the hope that there will be prepared standards for individual applications based on these general requirements, I would like to make certain observations that seem to make the present two B.S. unworkable as purchasing documents, which seems to me should be the main aim of a British Standard. First point, these documents do not make any provision so that the valve of one manufacturer will be interchangeable with those of another; this seems to be rather essential, especially in the case of emergency. For example, Appendix B of the B.S. for gate valves gives 'preferred' face-to-face dimensions of flanged valves which seems in fact, merely a pious hope. These should surely be 'standard' dimensions. Also I cannot think that it is really necessary to provide in two of the classes for long and short pattern valves where the difference in length in the smaller sizes is as little as $\frac{1}{4}$in in one class and 1in in the other. Unless there is standardization of these face-to-face dimensions replacement of a valve in a pipe line means that the purchaser is forced back to the manufacturer of the valve to be replaced. This may be desirable from the point of view of the manufacturer but a great inconvenience to the user. There are other instances of this sort. Surely the next step would be to eliminate a large part of these many alternatives. To obtain spare parts for valves it will also be necessary to specify the manufacturer's own identification, since to quote the B.S. number will indicate nothing and the marking clause calls only for nominal size, manufacturers' name, the class number, the flange identification (if any) and the B.S. number; and, incidentally, the first two of these may be omitted.

A point which seems to be a little confusing is the recommendation in Appendix A Item 6 which suggests that the tests on the valves may be witnessed if desired, but Clause 15 on tests says that it is not possible to segregate orders until the manufacture of the batch is complete; and the manufacture shall be understood to be complete only when the valves have satisfied the requirements of the tests.

It would appear that some clarification is needed, otherwise there seems to be a possibility of duplicate testing having to take place when the purchaser desires to exercise his right to witness tests.

I still think these two standards have got much to commend them as a basis for the preparation of other British Standards which those of us who have to order valves could use. But I think they are two documents which perhaps should not have seen the light of day and which could have been treated as agreed guidance for the committee when drafting standards for valves for various particular applications.

"STOCKIST"

Aluminium for Reservoir Roofs

TWO service reservoir roofs, recently completed for the Biggleswade Water Board, incorporate what seems to be one of the most interesting new developments in shallow-domed roof construction for large circular vessels. Embodying new approaches to both design and choice of materials, the 125-ft diameter 16-ton roofs are of unpainted aluminium alloy sections and sheet, and are self-supporting. One of the outstanding advantages of the constructional method used is that it was possible to erect both without draining water from the reservoirs.

New service reservoirs, of the type that hold supplies of filtered water for a community's immediate needs, are generally roofed over at the time of their construction, to prevent pollution of the water by airborne impurities. Older types of reservoir still in use were not covered when built, but present-day conditions make the addition of such protection more or less essential.

With traditional methods of roofing, supporting columns rising from the reservoir floor are often necessary, and the reservoir must generally be drained and out of service while the roof is built. Moreover, foundations for columns in the deeper reservoirs may present major difficulties, especially if the ground beneath the floor is at all suspect, and the columns themselves introduce further risk of contamination. One answer to these problems, for new or old reservoirs, is the self-supporting domed roof, and the aluminium roof represents one of the most economical types.

Built by Aluminium Construction Limited to their own original design, with Binnie, Deacon and Gourley as consulting engineers, the Biggleswade roofs are shallow spherical domes, each consisting of a grid of box-section ribs located on two series of great circles (i.e. the centre of curvature of every rib lies at the centre of the sphere of which the dome forms a small part), and are clad with flat 16 SWG (0.064 in) aluminium alloy sheet. The ends of the ribs meet the circular ring beam, which is set in reinforced concrete, at bearing shoes with screw adjusters. Although with the great-circle-rib design the sheet panels required to cover the spaces between ribs are not exactly square nor of exactly the same area, it was found practical to use standard sheets equal to the largest squares, and merely to increase the overlap near the ring beam. The main ribs are of hollow section, made by riveting together two top-hat sections; intersections are made by cutting one of each pair of sections so that half of each rib runs through the joint. Joints between the 20-ft lengths of ribs are made by inserting joint filler pieces, also of top-hat section; all joints are arranged so as to be clear of intersections.

Structural sections are of Noral 51SWP (B.S. 1476 : HE10WP), a heat-treated alloy with an ultimate tensile strength of 18 tons/sq in, and the sheets are of Noral M57S/H alloy, all being supplied by Northern Aluminium Company Limited. Since in most conditions of normal exposure these alloys have a very high natural resistance to atmospheric attack, painting or other surface protection was unnecessary. Apart from the savings in painting costs, this completely eliminates the difficulties associated with repainting the inside of the roof, which would involve either emptying the reservoir or running the risk of paint falling into the water.

The cost of building a domed aluminium roof of the type described is in many cases very much less than that of more traditional types, and the time taken for construction can also be far lower. At Biggleswade a moveable staging was necessary in order to allow the roofs to be built out over the reservoirs, and its erection, dismantling and re-erection at the second site added to the overall construction time, which was already extended by hard weather. Even so, the two roofs were completed in seven months.

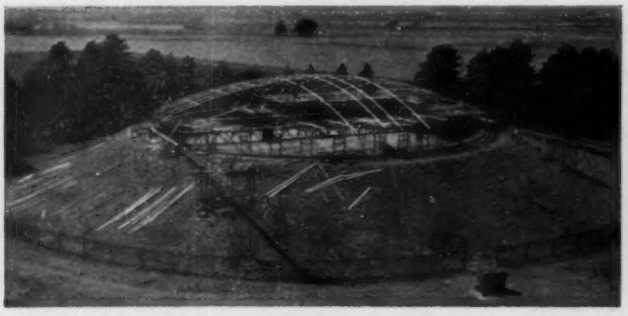
By no means the first of their kind, the roofs at Biggleswade were preceded by a larger (150 ft diameter) roof of similar construction weighing 23 tons over a reservoir at Eastbourne, and by other domes of smaller size. One of these, roofing a 78-ft diameter oil tank, is interesting in that it had to be gas-tight, and capable of withstanding internal working pressures of ±8 in of water. This involved a reversal of the stresses normally applying, the dome being in tension and the thrust ring at its circumference in compression. Welding of the ribs and sheet was decided upon instead of riveting, to ensure gas-tightness. Tests showed that any loss of strength by local annealing of the main rib sections when welded would be more than compensated for by the stiffening effect of the adjacent sheet acting as "fins", and the whole roof was successfully welded using Murex equipment. Unlike those of the Biggleswade and Eastbourne reservoir roofs, the ribs of the tank roof were single square-section hollow tubes.

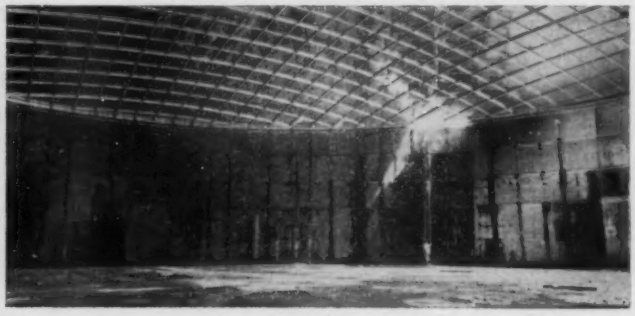
The basic principle of the ribbed dome of aluminium sections and sheet is not restricted to the smaller sizes of roof; a dome as large as 500-ft in diameter could be built as successfully as one of 150-ft, using pairs of 7½ in x 6 in top hat sections as main ribs, spaced at 15 ft, with light 6 in I-beams at 5 ft spacing as secondaries. These sizes are calculated assuming that, in addition to a general loading of 30 lb. per sq ft, one bay of rib carries a load, due to men walking on the roof, amounting to 500 lb spread along 5 ft.

Insulating a roof of this kind, should it be required, is a relatively simple matter; lining plates can be fixed to the undersides of the members, and the space filled with a suitable insulating material.

The constructional method used for these roofs is undoubtedly something of a new departure in technique. Its soundness and economy are nevertheless emphasized by the success of the structures already standing, and there would appear to be great scope for its application in the future.

(L.) The 125 ft diameter domed aluminium roof over the Toplers Hill reservoir of the Biggleswade Water Board and (R.) a view inside of the 150 ft diameter self-supporting aluminium roof over the Pardise reservoir of the Eastbourne Waterworks Co. Both roofs were designed and built by Aluminium Construction Ltd.





Wood Adhesives

THE third and considerably revised edition of the Forest Products Research Bulletin No. 20 "Requirements and properties of adhesives for wood" (H.M.S.O. Price 2s. net) has been issued and is of considerable importance to all those concerned with products manufactured from timber. The author of the Bulletin is Mr. R. A. G. Knight, who is the F.P.R.L. Officer-in-Charge of this section of the Station's work and one of the foremost authorities on the subject of adhesives for wood.

Adhesives have developed very much since the end of the war and the available variety has become very large but each alternative tends to have its rather special applications. thus it is consequently of the utmost importance that users of adhesives should keep their knowledge up-to-date. Not only, however, is it important to select the correct type of adhesive for each application but also that the adhesive should be used correctly, thus the guidance given in this Bulletin is not only very valuable but should be studied with great care.

The introduction to the Bulletin points out that at one time glues were at a disadvantage for certain work as water dissolved them out of the joint or so reduced their strength that they became valueless; recent developments, however, have added types of adhesive which are better in resisting the conditions to which they may be subjected than the wood itself. The introduction also explains that the knowledge of the properties of adhesives is still incomplete especially in regard to experience in the use of adhesives in practice.

The contents of the Bulletin are of a practical nature but it is acknowledged that there may be understatements of performance, to ensure that the adhesives used are not overstrained to a point at which success is not completely certain. A final paragraph in the introduction concerns itself with the words "glue," "adhesive" and "cement" which have synonymous uses as have the verbs "to glue" and "to bond."

In a section on the use of glue it is explained that there are three broad purposes for which they may be used, namely assembly work, plywood manufacture and veneering. It is further explained, because of the confusion which often arises, that the word "veneer" has two meanings namely the thin sheets of wood from which plywood is made up and the decorative material which is glued to plywood or to solid timber to improve its appearance. It should perhaps also be appreciated that veneers are not only laid on plywood and solid timber but also on fibre building board, such as hardboard, and on chipboard in the joinery and furniture industries; these two uses of the term can, unfortunately, cause confusion in the minds of users as they quite often refer to "plies" of plywood. The Bulletin uses the term "veneering" to describe the process of applying "ornamental veneers" but it seems that it is intended that the term should include also the work of application of veneers which are not necessarily "ornamental" as are used on the back of material to compensate for the application of more decorative veneers on the face side.

A section which follows stresses that, irrespective of the type of glue used, the adhesive must maintain an adequate bond under the conditions of service to which the joint will be put, thus the choice of the type of adhesive to be used in a particular application must rest primarily on the conditions of service which the joint has to withstand. Much is said on the subject of moisture relations of wood as these are a potential source of glue-line failure due to the stresses set up by differential shrinkage and swelling and by repetition of these. Conditions of service are discussed at some length in the Bulletin. It is good to see the point made that the value of paints and similar coatings as a means of protection is limited as these coatings do not prevent the passage of water vapour but only reduce the rate of moisture absorption. Consequently it is necessary to select glues by virtue of their inherent properties rather than to rely on the protective value of some subsequent paint covering. It is also pointed out that while some adhesives are immune to attack by fungi, moulds and bacteria they do not impart this quality to the wood with which they are used, thus a laminated product is as liable to rot as one which is of solid timber.

The classification for durability of glues put forward in the Bulletin is that which has been adopted in the British Standards for synthetic resin adhesives and for plywood, namely B.S.1203, 1204 and 1455, thus there are four categories which have their names linked with the kinds of test used in these B.S.s. These classes are: Weather-proof adhesives, Weather-resistent adhesives, Semi-durable adhesives and Interior adhesives. These four classes are now designated by a new terminology agreed at the B.S.I. as follows:

Class WBP: Weather and boil proof. Adhesives that by systematic tests and by their record in service have proved highly resistant to weather, micro-organisms, cold and boiling water, steam and dry heat. Such glues are more durable than the wood itself.

Class BR: Boil resistant. These adhesives have good resistance to weather and to the boiling water test, but fail under prolonged conditions of full exposure to weather for which the WBP adhesives are satisfactory. They will withstand cold water for many years and are highly resistant to micro-organism attack.

Class MR: Moisture (water) and moderately weather resistant. To this group belong those glues that will survive full exposure to weather for only a few years. They will withstand cold water for a long period and hot water for a limited time, but fail under the boil test. MR adhesives are highly resistant to micro-organism attack.

Class INT: Interior. Adhesives that withstand cold water for a limited time only and are not necessarily resistant to micro-organisms. They are suitable for use in situations where damp conditions occur only occasionally.

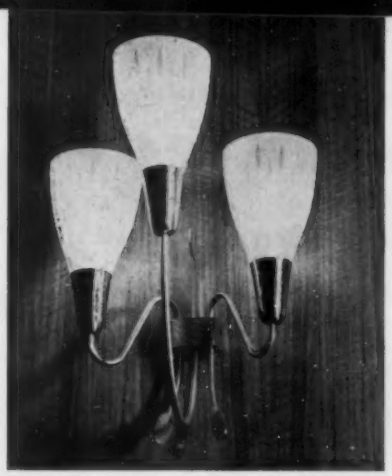
The Bulletin points out that although the terms WBP, BR, MR and INT are, strictly speaking, for use only in connection with the specification in which they appear, the principles of the definitions of these letter-groups are applicable to all types of adhesives, and consequently are used throughout this Bulletin.

The Bulletin divides the adhesives in common use into six types according to the chemical nature of their basic material. These six types are: Animal glues, Blood albumin, Casein, Soya and other vegetable proteins, starch derivatives, and synthetic resins. Of these types the main ones in use in this country are animal glues, casein and synthetic resins but the remainder may be found in imported products such as plywood.

There is a detailed description of the process by which glues set followed by a fairly full explanation of the terms used in gluing, all of which need to be understood if a proper use is to be made of the available adhesives. There then follows nine pages of detailed description of the six types of adhesives covering the constituent materials, the available forms, preparation, method of use, general characteristics and durability. The sixth class, synthetic resins is subdivided into five main types which are equally well described. This part of the Bulletin is invaluable to those who need to specify or use adhesives for woodwork in the building and associated fields and should be studied very carefully to avoid both incorrect specification and usage.

A page of the Bulletin is devoted to the subject of testing adhesives and to the nine British Standards which set out the tests in regular use. These nine B.S. include two which are intended primarily for aircraft work and one for plywood for the construction of marine craft, but the remainder are suitable for general applications, such as those met in the building industry.

A further section of the Bulletin deals with composite and extended glues which are only suitable for specification and use by those who



Wall lighting by G.E.C. designed by Sir Hugh Casson and John Wright for the lounge of Grosvenor House Hotel and mounted on Flexwood french Walnut Veneer

Wood Adhesives

have a very special understanding of adhesives and their properties as the durability is usually reduced from that of the principal component.

Attention is drawn to the possibilities of making toxic additions to adhesives to reduce micro-organism attack, to counter Lyctus beetle and for preservation. A warning is included about the risk of dermatitis arising from the use of glues together with some indication as to the precautionary measures which should be taken.

The final paragraphs are most important as they make clear that the failures of adhesive jointing of wood experienced are sometimes due to defective glue but more often they arise from the use of an unsuitable selection of adhesive. One paragraph justifies being quoted as in it lies most of the sources of trouble hard to detect as these are due to the "incorrect management of an adhesive by a user. The choice of the word 'management' is intentional for it is not merely in the mixing, application and pressing operations that troubles occur. The making of a satisfactory joint involves such factors as the selection of an adhesive suitable for the kind of wood to be joined, the proper machining of the timber and the control of its moisture content, the provision of equipment, shops and shop conditions appropriate to the work and the conditioning of the joints after gluing. Successful gluing depends on both the adhesive and the technique, and user and maker must collaborate if the best results are to be obtained."

This is not only a most excellent publication but one which almost everyone in the building industry should read and digest as at some point in their work they must inevitably be concerned with the gluing of timber.

DUTCH UNCLE.

Industrial Notes

● Under the Import Duties (Exemptions) (No. 11) Order, 1955, the import duties on a wide range of iron and steel products are suspended until September 18, 1956, while those on certain cold rolled sheet are suspended until March 18, 1957. The Board of Trade announce that after consultation with the Iron and Steel Board about the supply position, Her Majesty's Government have decided to make a new order which, with one exception, prolongs the suspension of import duty for a further six months on those products on which duty has hitherto been suspended until September 18, 1956. The one exception is galvanised sheet upon which the duty will be restored after September 18, 1956. The Government have undertakings from the main consumers of tinplate that all available home-produced tinplate including the full output from the hand mills will be taken up while the duty on tinplate and tinned sheet remains suspended. This new Order, the Import Duties (Exemptions) (No. 8) Order, 1956, (S.I. 1097) will come into operation on September 19, 1956. Copies of the Order may be obtained from H.M. Stationery Office, Kingsway, London, W.C.2, and branches, or from any bookseller, price 3d. (by post 5d.)

● The theme of the fifth Factory Equipment Exhibition to be held at Earls Court, London, from April 29th to May 4th, 1957, will be "Greater efficiency in industry." Exhibits will cover every type of modern factory equipment for works both large and small. Details regarding space, etc., may be obtained from the Organiser, Factory Equipment Exhibitions Ltd., 4 Snow Hill, London, E.C.1

● At this year's Fuel Efficiency Exhibition to be held at Olympia, London, from the 2nd to 10th October, Bennis Combustion Limited, Little Hulton, Walkden, Manchester, will have a comprehensive display of equipment. The Bennis Mark III Chain Grate Stoker will be on view as will the Bennis Low Ram Coking Stoker, Universal Elevator, Saxon Separator and Todd Oil Burning Equipment.

● Since the announcement that the next British Plastics Exhibition, being held from 10-20 July, 1957, is to become an international event, and will therefore include exhibits from other countries, so many requests for stand space have been received that the National Hall has been booked in addition to the Grand Hall at Olympia. This now gives a total floor area of 250,000 sq ft, compared with 90,000 sq ft in 1955—the Exhibition is held every other year. Only a very limited amount of vacant stand space remains for which application should be made without delay to the organiser, Mr. J. L. Wood, British Plastics Exhibition, Dorset House, Stamford Street, London, S.E.1. Overseas manufacturers who have already applied for space include firms in U.S.A., Germany, France, Italy, Switzerland and Czechoslovakia. The Exhibition, which will represent all sections of the industry, will show raw materials; moulding powders; synthetic resins; laminated, reinforced and fabricated plastics; compression and injection moulding machines; extruders, and other equipment—as well as an all-embracing range of finished products from cable coverings to caravans, and from swizzle sticks to sun glasses. A Convention will be run concurrently, for which full details will be announced later. The Exhibition and Convention is organised by "British Plastics," one of the Associated Iliffe Press Journals—with the full co-operation of the British Plastics Federation.

● Pilkington Brothers Limited and Chance Brothers Limited announce that they are negotiating for a thirty acre building site at St. Asaph, Flintshire.

● General Electric Co. Ltd., have secured Australian orders for generating plant to the value of £2,500,000. The equipment, to be delivered in 1959, will be installed in the Wallerawang Power Station and a further order is destined for Mount Isa Mines.

● Remington Rand Limited announce the appointment of Mr. P. J. Walsh as Regional Manager for Eire as from July 20th.

● The British Transport Commission announce the appointment of Mr. T. H. Hollingsworth, at present Chief Commercial Manager, Scottish Region, British Railways, as Traffic Adviser to the B.T.C. at their Headquarters in London in succession to Mr. David Blee, who was recently appointed General Manager of the London Midland Region.

● Lumenated Ceilings Ltd., have acquired larger Scottish sales offices at 10 Bothwell Street, Glasgow, C.2. Telephone: Glasgow Central 6571-2.

CORRECTION

On page 719 of the 28th June issue in an article dealing with Eton's Swimming Pool, reference was made that "All exposed concrete faces have been painted with two coats of Interol paint"; this should have read "Inertol" paint.

NEW PRODUCTS

British Paints Ltd., are now making their "Superlative" gloss paint to an entirely new formulation. This has been done by combining the best qualities of their "Superlative" gloss paint and "Luxor 1" alkyd enamel which will no longer be obtainable when existing stocks disappear. It is claimed that the new paint is quicker drying, easier in application and characterized by complete absence of bloom or haze.

★

Rosanex exterior wall paint is based on linseed oil and non-chalking pigments and can be used on new and old concrete, brick, stone and previously painted surfaces. It covers from 70 sq yd per gallon on smooth non-porous surfaces down to 25 on porous non-painted walls. It can be brushed on or sprayed and has a semi-gloss finish which flattens off to a durable colour fast matt finish. At present available in a range of ten colours.

★

Adam & Lane & Neeve Ltd. have recently developed and patented a fireproof shutter to L.C.C. and F.O.C. specifications. The curtain is constructed from 18 gauge C.R.C.A. steel interlocking laths and bottom rail from M.S. angle. Rollers are of 5½ in weldless steel tubing and fitted with self-aligning ball or roller bearings. The facia plate is fixed to the building independently of the main casing, the fixing holes being slotted for expansion. A fusible link is fitted and is set to melt at 155 deg. F. This causes the shutters to drop automatically and seal off the opening. Geared shutters are operated through spur and bevel machine cut reduction gear. The makers will supply erectors for fixing if required.

★

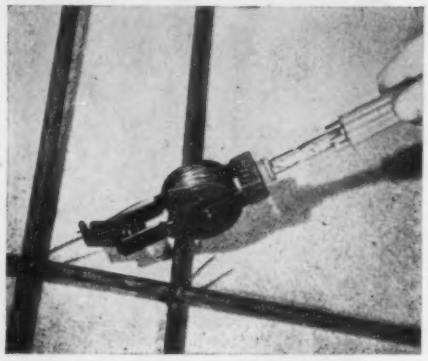
Cableflow cable trunking incorporates a copper bonding link as an integral part of the connecting link. This link is of sufficient thickness to be drilled and tapped to take a terminal for an independent earth-wire. Capping extensions act as shield plates to provide continuous cable protection.

★

The "Unibind" wire twister, Fig. 1 has been introduced by Douglas Kane Associates. Model S uses any mild steel wire from a coil or reel and Model R carries its spool of mild steel wire, sufficient for a hundred and fifty ties. Illustration shows concrete reinforcement rod being tied by the Unibind and a further pull on the handle automatically shears the wire at the blade after being tied.

★

The Excelsior sink and drainer unit, Fig. 2 has been recently introduced by Johnson Fireclay Co. Ltd. Available in two sizes having overall measurements of 36 in. x 21 in. and 42 in. x 21 in. respectively. Both models stand 36 in. high and have draining boards 14½in. and 17½in. Bowl sizes are 17 in. x 15 in. and 20 in. x 15 in. respectively. The bowl and drainer are in green vitreous enamel fireclay and the wooden cabinets are cellulose-finished in cream. The sink bowl is oval in shape and the drainer is non-slide type with flute depths gradually increasing towards the bowl.



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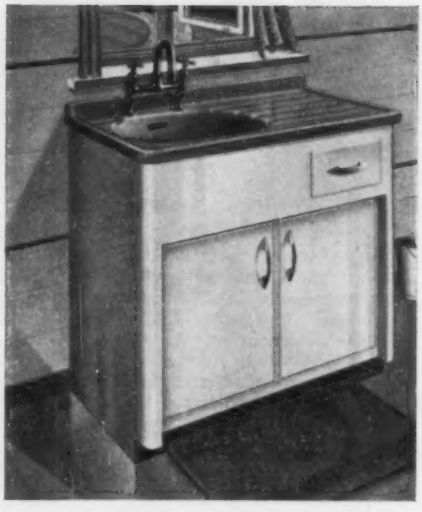

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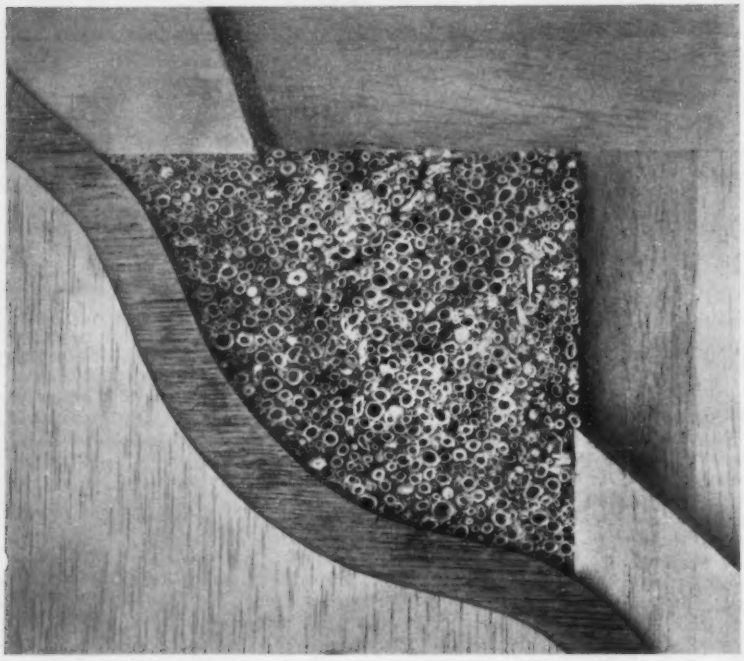

★

A new flush door, Fig. 3, has been introduced by Thames Plywood Manufacturers, Ltd., of Barking, Essex. Known as the Thamesply-Werno Door, it originated in Sweden. The advantage of the door is in the core, which is a solid pack of short lengths of straw uniformly cut and so tightly compressed that each square foot of the door contains many thousands of the straw tubes. It is claimed to be 40 per cent. more soundproof than the normal skeleton flush door and to possess good thermal insulation properties. The straw tubes are glued at right angles to the faces of the door by a special adhesive. They provide innumerable air pockets which form a sound suppressor. Normal skeleton flush doors show a sound suppression of about 15 decibels, whereas tests have shown that Thamesply-Werno doors have a sound suppression value of 22 decibels.

CURRENT MARKET PRICES (LONDON)

(These prices apply to material purchased in the quantities named or otherwise as might be expected) for a new building of moderate size).

23 July, 1956

AGGREGATES AND SAND

1½ inch—all in—ballast	24/–	Yard cube delivered (in five yard loads or more)
¾ inch do. do.	26/–	
¾ inch screened shingle	21/9	
¾ inch do. do.	22/9	
¼ inch granite chippings	52/–	
Sharp washed sand	24/9	
Pit sand	22/6	
Building sand	22/6	
Broken brick	20/3	
1½ inch shingle	20/9	
Cartage of muck	8/6	

BUILDING MATERIALS AS DESCRIBED, CENTRAL LONDON

CEMENTS packed in paper bags		Per ton
Portland in 6 ton lots		104/6
Do., from 1 ton to 5 tons 19 cwt. do		116/6
Do., Rapid hardening (6 ton lots)		115/–
Do. (but 1 ton to 5 ton 19 cwt.)		127/–
Cement "Aquacrete" (do.)		149/–
Do., "417" or "Polar" (do.)		149/–
Do., "White" 1 ton (lots)		265/–

LIME—	132/–	(1 ton loads)	deliv'd
Hydrated including	129/6	(2/3 do.)	do.
and paper	119/6	(4/5 do.)	do.
Ground bags	117/6	(6 do.)	do.

PLASTER—	
Keenes, coarse, pink (2 ton lots)	219/6 ton
Do. do. white (do.)	225/– do.
Sirapite, do. (2 ton to 3 ton 19 cwt lots)	158/3 do.
Do. finish (do.)	166/3 do.
Hardwall, do (do.)	169/9 do.
Plaster, coarse, pink (do.)	156/6 do.
Do. do. white (do.)	166/– do.
⅜in Plaster baseboard (25 to 75 yards)	3/4½ Yard Sup.
⅜in Do. (150 to 299 yards)	3/0½ do.
3½in Jute scrim (100 yd roll)	8/7 each
Cow hair (under 3 cwt)	97/6 cwt

FIRECLAY—	
Stourbridge, loose (1 ton lots)	176/9 ton delivered
Fire cement	12/3 14 lb

BRICKS

BACKING BRICKS (in truck loads)—		
Flettons	115/– per 1,000	delivered
Do. Keyed	117/– do.	
Do. bullnose	145/– do.	
Blue wirecuts	530/6 do.	
White	197/– do.	
Southwater engineering (No. 1)	382/– do.	
Firebricks—2½ inch	77/– per 100	delivered
Do. —3 inch	90/9 do.	
STOCK BRICKS—		
Mild stocks	181/6 per 1,000	at Works
Second, do.	236/– do.	
First, do.	257/– do.	
Add for delivery—approx. 45/– per 1,000 in lorry loads		
FACINGS (ex truck or lorry)—		
Rustics	145/– per 1,000	delivered
White	220/– do.	
Blue pressed, 2½in	587/– do.	
Do. bullnose	601/– do.	
Reds (Multi sand faced)	320/– do.	
White glazed stretchers	1600/– do.	
Do. headers	1575/– do.	
Do. bullnose	2000/– do.	
Do. double stretchers	2125/– do.	
Do. double headers	1937/6 do.	
Breeze fixing bricks	29/– per 100	
Fire tiles and lumps	33/– foot cube	
Wall ties—8″ × ½″ × ⅛″, black	71/3 per cwt	
Cement mortar (1 : 3) hand-made	92/– yard cube	

BRICKLAYERS' SUNDRIES—

AIR BRICKS	9 × 3in	9 × 6in	9 × 9in	12 × 9in
Iron each	2/1	3/5	5/2	6/10
Galvanized do. do.	3/9	6/–	9/–	12/–
Terra Cotta do.	1/3	2/7	5/6	10/10
Chimney pots, Terra	1ft	2ft	3ft	4ft
Cotta (11 to 25) do.	7/7	13/4	30/3	51/5

PARTITIONS—

18in × 9in Blocks keyed for plastering

	2in	2½in	3in
Per yard super in 6 ton lots			
In solid clinker including any half blocks	3/9	4/4	5/3
In cellular clinker blocks	3/11	4/7	5/3
In hollow clay blocks	4/4	4/7	5/4
Clinker blocks in small quantity	5/7	6/7	7/11

Intermediate quantities in all types may be had at intermediate prices.

Smooth in lieu of keyed faces extra cost per side 3d. per yd super

SINKS—

Fireclay white glazed in and out—standard quality

	24 × 18in	30 × 18in	30 × 20in
London pattern, no overflow, 6in deep	69/6	86/6	96/–
Belfast, plain edge, 10in deep	83/3	137/6	185/6

FLUE, LININGS, PLAIN, CIRCULAR (FIRECLAY)—

	Foot lineal Straight	Each Bends
9in diameter	4/2	12/6
10in do.	5/3	15/9
12in do.	10/–	30/–
9in diameter, beaded end, 12in high		5/7

FLUE PIPES AND FITTINGS—

	4in	5in	6in
Heavy asbestos type, 6ft length	16/6	22/–	28/–
Do. 3ft length	8/3	11/–	14/–
Do. bends	6/2	7/10	9/4
Light asbestos type, 6ft length	13/6	17/–	22/–
Do. 3ft length	6/9	8/6	11/–
Bends	4/10	6/1	7/5
Baffler	13/4	15/10	16/8

DRAINAGE GOODS

GLAZED STONEWARE STANDARD LIST

ORDINARY TYPE—EACH	4in	6in	9in
Pipes in 2 feet lengths	1/8	2/6	4/6
Bends	2/6	3/9	10/1½
Junctions (4in on 4in, 6in on 6in, 9in on 9in	4/2	6/3	13/6
Gullies with 4in outlets	6/3	6/10½	11/3
4in horizontal inlets	2/–	3/–	5/–
4in vertical ditto	3/–	4/–	7/–
Black iron grids	9d	1/5	2/9

Adjustment to Current Cost	2 ton lots or more	Less than 2 ton lots: 100 pieces or more	Less than 2 ton lots: Under 100 pieces
"Best" pipes and fittings. Percentages to add	85%	117½%	130%

Further percentages to be independently added in respect of: British Standard pipes, etc., 10. "Best" Tested pipes, 37½. British Standard Tested, 47½.

IRON DRAINAGE GOODS—

Each	4in	6in
Cast iron pipes, 9 feet long	75/3	110/9
Do. 6 feet do.	54/–	83/10
Do. 4 feet do.	41/7	64/10
Do. 2 feet do.	25/5	38/5
Short bend	17/6	46/3
Junction	31/–	64/8

CURRENT MARKET PRICES (Continued)

DRAINAGE GOODS—Continued

GULLEY PARTS—	4in	6in	
Traps, high level, invert	31/–	84/–	each
Inlet, bellmouth pattern	16/5	32/–	do.
Do. with one vertical branch	28/6	53/5	do.
Do. with two do.	77/2	113/3	do.
Extra for Sealed cover	9/11	12/8	do.

RAINWATER SHOES	4in	6in	
With vertical inlet and rebated top	40/7	80/9	each
Extension piece, 6in high	21/5	21/5	do.
Flat loose coated grating	4/3	4/3	do.
Loose solid coated cover	5/7	5/7	do.

MANHOLE CHANNELS, WHITE GLAZED—

Each	4in	6in	9in
Straight, 2 feet long	16/6	24/3	40/9
Taper, ditto	27/6	27/6	41/9
Bends, main, half section	32/–	46/3	76/–
Ditto, branch, ditto	19/9	27/6	—
Ditto, ditto, three quarters, ditto	27/6	44/–	—
Junctions, single	26/6	46/3	—
Ditto, double	36/3	62/9	—

BROWN GLAZED CHANNELS—
Based on standard list (less than 100 pieces)

	4in	6in	9in
Half-round main channel (2ft long)	2/9	4/2	7/4
Extra for stop ends	2/9	4/2	7/4
Extra for outlets	5/5	8/2	—
Channel bends with splayed ends	8/2	12/3	—
Three-quarter section do.	10/10	16/4	—

MANHOLE COVERS—	Black
24 × 18in Light foot traffic	30/–each
Do. Strong do.	53/6 do.
Do. Light car traffic	107/– do.
Do. Road traffic	160/– do.

SUNDRIES—	Galvanised
Manhole steps	8/7 each
4in Mica valve fresh air inlets	14/6 do.
Plumber's hemp	7/3 per lb.
Gaskin, caulking	1/5½ do.
Canvas backed hair felt, 4in wide	9d per ft run

ROOFING MATERIALS

WELSH SLATES (delivered)—

Sizes in inches	Full Loads per 1,000	Quantity 100 to 499 per 100	1 to 99 per doz.
22 × 11	2070/–	280/–	37/–
20 × 10	1839/–	250/6	33/–
18 × 10	1287/–	173/6	23/–
16 × 10	1020/–	138/–	18/3
14 × 9	670/–	95/9	12/9
14 × 4½	335/–	42/9	5/9

TILES (Brosley and Staffordshire)—	per 1,000	per 100
10½″ × 6½″ Machine made	280/–	39/–
Do., hand made, sand faced	350/–	46/9
Hips, valleys and angles	31/– per dozen	
	Per 1,000	Per 100
Plain concrete tiles	177/–	19/6

Sheeting asbestos corrugated, 6in pitch	7/4½ yard super
4½in × 16 gauge, drive screws (galvanized)	17/9 gross
7½in × ⅝ hook bolts and nuts (do.)	51/6 do.
Washers, round, flat galvanized	4/9 do.
Do. do. bituminous	2/– do.

ROOFING FELT—	
Sanded bitumen felt (55lb)	1/– Yard Super
Ditto, but 75lb in weight	1/6 do.
Inodorous felt, best quality	3/– do.
Ditto, second quality	2/4 do.
Underlining	1/8 do.
Sheathing	1/8 do.
Galvanized felting nails	2/– lb.

PRECAST CONCRETE LINTOLS—

1 : 2 : 4—⅜in material, finished with fair exposed faces, including all form-work, and one ½in diameter mild steel rod reinforcement to each 4½in in width.

Per foot lineal delivered to site

4½in × 6in	9in × 6in	9in × 9in	13½in × 9in	18in × 9in
4/–	6/–	7/8	9/6	11/6

STONE

PER FOOT CUBE in random blocks not exceeding 20ft cube in each, free on rail London.
Monks Park 8/1½ St. Aldhelm 9/1½
Portland brown Whitbed 8/5
Other stone but delivered to sites. Doulting 8/11, Beer 8/5

TIMBER

Softwood—sawn—random lengths.

	Per Standard	Per cubic foot
Carcassing quality	£105	12/8
Joinery quality	£120 and up	13/4

Plain edged unsorted flooring, per square	⅝in	1in	1¼in	1½in
	90/–	110/–	138/–	165/–

½in insulating wall board (250 yards) 4/3 yard super
Larger quantities cost less, and smaller quantities more.

SUNDRIES—	Dia.	3in	6in	9in
Black hexagon bolts, nuts and washers. Each	½in	6½d	9d	11d
	⅝in	9½d	1/0½	1/1
	¾in	1/2	1/6	1/10
Sashline, hemp, good quality Per Yard Run		No. 6 9d	No. 8 1/1	No.10 1/4
Floor brads			76/– per cwt	
Cut Clasp Nails			77/– per cwt	
Steel ordinary screws	1″ No. 8 3/1		2″ No. 8 5/4	per
Brass, ditto	Do. 10/8		Do. 18/9	gross

HARDWOOD—	Per ft super ⅝in	1in	Per ft cube
Prime	2/4	2/6	28/–
African mahogany	3/3	4/–	50/–
Honduras ditto	3/1	3/3	36/–
Portuguese Guinea ditto	2/5	2/7	29/–
African walnut	5/6	5/10	65/–
Australian ditto	4/3	4/6	50/–
English oak	3/4	3/7	40/–
Yugoslavian ditto	5/–	5/9	65/–
Burma and Siam Teak			

DOORS.—STANDARD TYPE SOFTWOOD

Each in quantities 12 or more.
1⅜in finish, 4 horizontal panels moulded both sides 6ft 6in high.
2′ 3″ wide 41/–
2′ 6″ do. 42/3
2′ 9″ do. 44/6

FLUSH DOORS, 1⅜in thick, ply faced both sides, lipped edge.
All 6ft 6in high.
2′ 3″ wide 47/6
2′ 6″ do. 49/6

PANELLED DOORS : see B.S. 459—Part 1.

FLUSH DOORS : see B.S. 459——Part 2.

2in (nominal) as last but upper panel prepared for glazing
2′ 6″ wide 59/–
2′ 9″ do. 62/–

2in (ditto) all as above but in 3 panels.
2′ 6″ wide 55/9
2′ 9″ do. 58/3

2in (ditto) all as above but in 2 panels.
2′ 6″ wide 51/3
2′ 9″ do. 53/6

IRONMONGERY

	2in	3in	4in	5in	6in
Cast iron Butts, per pair	1/2	2/–	3/2	5/11	8/5
Hinges, spring, single action regulating, japanned, each	—	8/–	12/–	15/3	21/–
Do. but double action spring only, each	—	16/6	21/–	25/9	33/9
Do. blank only, each	—	8/9	12/–	17/9	21/6

CURRENT MARKET PRICES *(Continued)*

IRONMONGERY—*Continued*

	12in	18in	24in	30in	36in
Tee hinges, (japanned) per pair	2/–	3/10	—	—	—
Do. but stronger, per pair	3/4	6/1	8/3	—	—
Hook and Ride hinges, per pair	—	—	13/4	16/3	24/10

BOLTS—each—	3in	4in	6in	8in	10in	12in
Cabinet, barrel, straight or necked	1/6	1/8	2/–	—	—	—
Square spring, with brass knob	1/4	1/6	1/11	—	—	—
Tower bolts	—	1/8	2/4	3/1	3/10	4/7
Barrel bolts	—	2/6	3/7	4/8	6/–	7/3
Add to Tower or Barrel bolts if necked	—	½*d*	¾*d*	1*d*	1*d*	1*d*

LOCKS—each—			
Rim lock, 2 lever, wrot case	Brass furniture		5/–
brass bolt and bushing	12/9	or Bakelite do.	3/3
		Bakelite finger-plates	2/4
Mortice lock, 2 lever, bushed	12/9	Brass furniture	8/9
		or Bakelite do.	3/10
Cylinder latches, japanned case			16/–
Brass sash fastener		each	5/–
Casement fasteners (malleable)		do.	1/6
Do. stays (do.)		do.	2/–
Axle pulleys (brass face, iron wheel)		do.	5/1
Do. as last, but with brass wheel, 1¾in		do.	6/8
Sash line, No. 8 Anchor yellow label		per yard	1/–

METAL GOODS

British rolled steel joists ex mills to basis sections on site (6in × 5in, 8in × 5in or 6in, and 10in or 12in × 6in)	£34/0/0	per ton
Extra cost over basis for following sections—		
9in or 18in×7in, 14in×5½in, 15in×5in, 14in or 15in or 16in or 18in×6in, 20in ×6½in, 20in×7½in, 10in or 12in or 14in or 18in×8in	10/–	per ton
5in×4½in, 7in×3½in, 13×5in	15/–	do.
12in×5in, 22in×7in	20/–	do.
6in×4½in, 7in or 8in or 9in×4in, 10in×5in	25/–	do.
4in×3in, 10in×4½in	30/–	do.
5in×2½in, 5in×3in	35/–	do.
6in×3in, 24in×7½in	40/–	do.
3in×3in	50/–	do.
4½in×1¾in	65/–	do.
3in×1½in, 4in×1¾in	70/–	do.
⅜ mild steel reinforcing rods ex mill d/d	£35/10/0	do.
Extras per ton		
⅝in diameter in size	59/6	per ton
⅞in	72/–	do.
1in	92/–	do.
1⅛in	132/–	do.
1¼in	172/–	do.
1⅜in	192/–	do.
Extras for length		
5ft to 3ft	7/6	do.
3ft to 2ft	15/–	do.
2ft	22/6	do.
40ft to 45ft	15/–	do.
45ft to 50ft	22/5	do.
Bolts and Nuts	90/–	per cwt
Trench covering, including trays 1¼in deep and rebated frames, 9in wide	23/–	foot run
Do., but 12in wide	24/9	do.
Do., but 14in wide	27/–	do.
Do., but 18in wide	35/6	do.

METAL SUNDRIES

Cast iron pavement light filled with 4in×3in glass lenses	32/–	per ft super
¼in wrought iron plate door in four panels with stiles and rails on both sides	50/–	do.
20 gauge galvanized iron trunking and straps	6/–	do.
24 gauge galvanized Tallboy 6ft high 9in diameter with 9in×12in base	57/6	each

CHAIN LINK FENCING—

In 25 yards lineal rolls inclusive of line wire.

2in mesh	Height in inches—				
	36	42	48	60	72
10½ wire gauge	100/9	117/6	134/6	166/6	201/6
12½ do.	71/–	82/9	94/6	118/3	141/9
14½ do.	50/9	59/–	67/3	84/6	101/3

DOUBLE SOOT DOORS AND FRAMES—

Fitted with brass turnbuckle and cast key	9in×9in 19/6	12in×9in 28/9	14in×12in 49/6

SLIDING DOORS, GATES AND PARTITIONS—

Factory sliding doors in two leaves containing about 100 square feet with mild steel angle frames covered with 24 gauge corrugated galvanized sheeting and including hanging tubular track and gear complete	15/6	foot super
Factory entrance gates with mild steel frames clad with 2in mesh chain link complete	12/–	do.
Steel partitioning, glazed (rough cast) and stove enamelled	18/6	do.

STEEL ROOF LIGHTS—

Lanterns with vertical sides, and hipped roof glazed with ¼in cast glass and lead flashed	14/–	foot super
Skylights of similar construction (27ft super)	20/–	do.

HIGH GRADE DOMESTIC BOILERS

Coke Fed. Performance 20 to 40 gallons raised from 40 °F to 140 °F per hour as under.

TYPE		£	s.	d
20 gallons per hour 15in wide, 23in high	Plain cast iron black finish	10	0	0
	Ditto, in cream mottle finish including side jackets	14	10	0
25 gallons per hour 19in wide, 22in high	In cast iron as before and base plate	12	5	0
	Ditto in cream mottle with side jackets and base	18	10	0
40 gallons per hour 22in wide, 23in high	in cast iron, etc., as last ditto	20	5	0
	Ditto in cream mottle all as last ditto	27	5	0

GAS, WATER AND STEAM TUBES

(From Standard-List)

Internal Diameter—	¼in & ⅜in	½in	¾in	1in	1¼in	1½in	2in
Tubes per ft	4*d*	4½*d*	5½*d*	6¾*d*	9½*d*	1/1	1/4½	1/10
Bends each	8*d*	9*d*	11*d*	1/2	1/7½	2/7½	3/2	5/2
Elbows, sq. do.	10*d*	11*d*	1/1	1/3	1/6	2/2	2/7	4/3
Do., round do.	11*d*	1/–	1/2	1/5	1/8	2/4	2/10	4/8
Tees do.	1/–	1/1	1/3	1/7	1/10	2/6	3/1	5/1
Crosses do.	2/2	2/4	2/9	3/3	4/1	5/6	6/7	10/6
Backnuts do.	2*d*	2*d*	3*d*	3½*d*	5*d*	6*d*	8*d*	1/1
Sockets do.	3*d*	3*d*	4*d*	5*d*	6*d*	8*d*	10½*d*	1/3
Sockets, dimin. do.	4*d*	5*d*	6*d*	7*d*	9*d*	1/–	1/4	2/–

PERCENTAGES ON OR OFF ABOVE

In quantity and in random lengths.

TUBE—				
Class A (light)	—12½%	Black	+9%	Galvanized
Class B (medium)	—2½%	Do.	+20%	Do.
Class C (heavy)	+12%	Do.	+37%	Do.
FITTINGS—				
Lightweight	+22%	Black	+35%	Galvanized
Heavy	+30%	Black	+45%	Do.

RAINWATER GOODS (Painted or Unpainted)

In consignments of 5 cwts. and over

From Standard List

Pipe:		2in	3in	4in	5in	6in
6ft lengths	each	12/10	14/5	18/11	24/8	31/6
3ft do.	do.	7/–	7/9	10/–	13/1	16/6
Shoe, ordinary	do.	2/7	3/10	5/7	9/5	12/11
Bend	do.	3/1	4/4	6/3	11/3	14/7
Branch, single	do.	4/6	6/7	9/3	14/7	22/6
Offset, 4½in	do.	3/9	5/3	7/9	12/11	17/–
Do. 9in	do.	4/11	6/6	9/8	15/3	19/3
H.R. gutter, 6ft. length	do.	—	6/–	8/5	10/4	13/10
Angle or nozzle	do.	—	2/6	3/1	3/9	5/4
Stop end	do.	—	9*d*	1/1	1/6	1/9

Above plus 12½%

CURRENT MARKET PRICES (Continued)

PLASTERING MATERIALS

Sand, lime, cement and various plasters are previously included under those heads—

Metal lathing (⅜″×24G) (20 yards)	.. ..	3/11 sq. yard
Plaster baseboard ⅜″ (600 yards)		2/4 do.
Lath nails, galvanized	..	1/2 lb.
White glazed tiles (6″×6″×¼″)	small quantity	18/6 sq. yard
Do. rounded on one edge		22/6 do.
Do. on two adjoining edges		27/– do.

PLUMBER'S GOODS

4 lb. lead sheet (in 1-ton lots)	151/– per cwt
Lead water pipe in coils (do.)	152/3 do.
Plumber's solder	3/7 lb.
Copper tacks	6/9 do.

IRON SOIL AND WASTE PIPE. (5cwt lots and up)

each	2in	3in	3½in	4in
⅛in Medium pipe, 6ft length	14/6	17/2	19/3	21/11
Ditto, 4ft length	10/5	12/2	13/7	15/5
Bends	5/4	6/6	8/1	9/1
Ditto, with oval door	17/4	18/6	21/1	24/7
Junction, single	6/6	9/8	11/3	13/3
Ditto, with oval door	18/6	21/8	24/3	26/3
Swan necks, 4½in	6/6	10/3	11/9	13/9
Ditto, 9in	8/8	11/9	13/9	16/1
Holderbat, 2¼in projection	5/9	5/11	6/2	6/4

Above plus 12½%

GALVANIZED CISTERNS, TANKS AND CYLINDERS—(Less than four)

each gallons	Nominal capacity			
CISTERNS— Bends over tops and corner plates. Riveted or welded	100	150	200	300
14 gauge	171/6	234/3	283/4	405/–
12 gauge	198/6	252/7	312/–	436/6
⅛in plate	236/–	296/8	355/6	499/–
HOT WATER TANKS .. Riveted and with handhole and ring.	20	25	30	40
12 gauge	118/6	131/6	143/6	171/6
⅛in plate	131/–	143/5	155/10	190/8
HOT WATER CYLINDERS— Riveted, with handhole and ring.	20	25	33	39
12 gauge	159/–	167/6	189/–	204/6
⅛in plate	177/–	195/6	214/–	226/6

PLUMBER'S BRASSWORK, etc. Each

	½in	¾in	1in	1¼in
Boiler screws, single nut ..	1/8	2/1	3/6	5/6
Ditto, double nut	2/2	2/11	4/8	7/–
Cap and lining	1/2	1/7	2/2	2/3
Plumber's unions	2/10	3/8	5/–	8/–
Ball valves, screwed iron ..	15/5	23/1	—	—
Ditto, fly nut and union ..	16/8	24/10	—	—
Bib valves, crutch top screwed iron	9/6	13/6	—	—
Ditto, but screwed boss ..	10/8	15/3	—	—
Stop valves, screwed iron ..	7/9	11/–	—	—
Ditto, screwed iron and union	8/11	12/9	26/9	—
Ditto, double union ..	10/1	14/6	31/–	—
Waste, plug chain and stay ..	—	—	8/–	9/–

	1¼in	1½in	2in	4in
Caps and screws	3/1	3/10	5/6	—
Sleeves, long	—	—	7/8	11/1
Ditto, short	—	3/10	3/8	10/6
Thimble	—	3/10	4/10	10/7
Full way gate valves, hot pressed	21/9	31/6	—	—

	1¼in	1½in	2in
Lead 7 lb P. trap	7/6	9/9	13/10
Ditto, S. trap	9/2	12/1	16/11
Lead 6 lb P. traps with 3 in seal ..	8/4	10/1	—
Ditto, but S. traps, ditto	10/5	12/8	—

Wire balloon guards, copper, 2in 3/1; 4in 3/4
Ditto, galvanized iron, 2in 1/11; 4in 2/1
Hair felt, 34in × 20in, 24 oz, 6/– sheet
Boss white jointing compound, 2/– lb
Gaskin, 1/5½ lb Hemp, 7/3 lb

COPPER TUBES—Extract from B.S. 659/1944—

Nominal bore	Internal work (semi-hard). Outside diameter inch	Gauge	Weight lb per ft	3 cwt lots Price per lb pence	Price per ft pence
½in	0·596	19	0·27	46½	12·49
¾in	0·846	19	0·39	44⅝	17·41
1in	1·112	18	0·62	43½	26·74
1¼in	1·362	18	0·76	42½	32·30
1½in	1·612	18	0·91	42½	38·68
2in	2·128	17	1·40	44½	61·78

CAPILLARY TYPE CONNECTIONS—
All ends copper to copper

Each	½in	¾in	1in	1¼in	1½in	2in
Straight ..	1/8	2/4	3/8	4/10	6/6	9/4
Bends	4/4	5/4	7/8	10/6	16/6	23/2
Tees	4/–	4/8	7/6	11/–	15/8	23/2
Brackets (Brass)	2/5	2/10	3/4	—	—	—

GLASS

	Per foot superficial 24oz	26oz	32oz
English, flat drawn sheet glass cut to sizes in squares	8¾*d*	11*d*	1/2¾
Figured rolled and cathedral, white, cut to sizes, in squares (⅛in)	10⅞*d* Per foot super		
Ditto, but in standard tints	1/8 do.		
⅛in Rolled, cut to size, in squares ..	10⅞*d* do.		
⅛in or ⅜in rough cast ditto	1/2¼ do.		
⅛in ditto wired ditto	1/5 do.		
Georgian wired ditto	1/5¼ do.		
Fluted (No. 4) ditto	1/6½ do.		
Reeded, (narrow, broad, cross and major) ditto	1/3½ do.		
Reedlyte (narrow and broad) ditto ..	1/3½ do.		
Spotlyte ditto	1/3½ do.		
⅛in Calorex Cast ditto	1/3½ do.		
Calorex Sheet (15oz)	6/9 do.		
ditto. (21 oz)	9/3 do.		
Flashed Opal (15/18oz)	4/3 do.		
Pot Opal (15/18oz)	4/3 do.		

POLISHED PLATE GLASS (Tariff) Cut to sizes.
Ordinary substance ⅜in and ¼in thick.
Per Superficial foot.

	General Glazing
In plates not exceeding:	
2ft super in each	3/10
5ft ditto	4/9
45ft ditto (unless extra sizes)..	5/7
100ft ditto (ditto)	6/–

Extra sizes, i.e., Plates exceeding 100 ft. super or 160in one way or 96in both ways at higher prices.

DECORATING MATERIAL

	Price	Unit
Aluminium Paint	37/6	Gallon
Distemper, ceiling	39/–	Cwt
Distemper, washable	120/–	do.
Enamel	60/–	Gallon
Gold Metallic Paint	86/6	do.
Heat Resisting Paint	50/–	do.
Japan, black	23/6	do.
Knotting	40/–	do.
Linseed Oil	18/9	do.
Boiled, ditto	19/3	do.
Proprietary Paints (good class)—		
Finishing	57/6	do.
Priming	62/–	do.
Undercoat	56/–	do.
Paperhanger's Paste	36/6	Cwt
Petrifying liquid	8/9	Gallon
Putty	58/–	Cwt
Size	9/3	Firkin
Terebine	16/–	Gallon
Turpentine substitute	6/9	do.
Varnish, oak, copal inside use	33/–	do.
Ditto, ditto, outside use	38/–	do.
Ditto, white, eggshell, flat	44/6	do.
White lead mixed paint	70/–	do.
White lead	194/–	Cwt
Whiting	13/3	do.

TUBULAR TRACKS

Straight-run Sliding Doors

TOP HUNG — SINGLE LINE — DOUBLE PASSING
TRIPLE PASSING

Ten sizes Copper-amalgam rust-resisting tracks, each with rounded troughs and offset for trolley clearance. Hangers with ball or roller bearings, rustless lubricators, positive vertical adjustment. Precision made for wood or for steel frame doors. Bottom Guide (many exclusive types) to aid sweet running and security, and to keep out weather.

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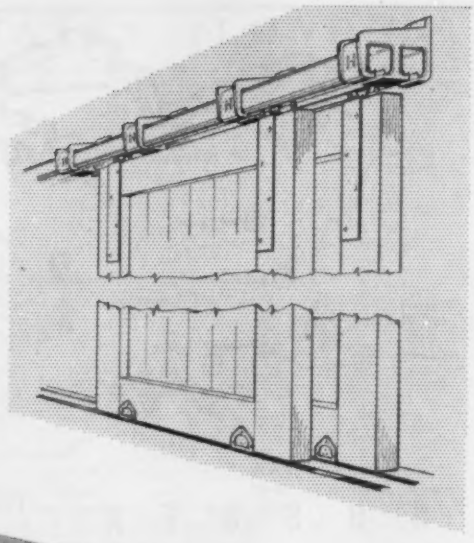

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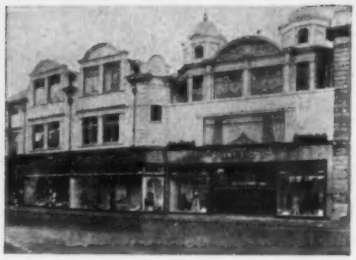

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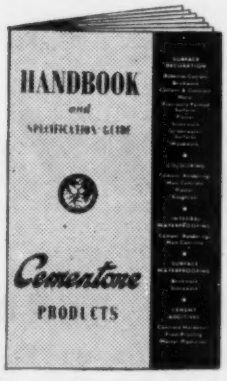

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CURRENT MEASURED RATES (LONDON)

These apply to new work of normal character and some size. These rates are for time and materials only and carry 10 per cent in excess, so the appropriate essential on-costs should be added. The basis cost of material used in the calculation of these prices is taken from the foregoing tables which carried up to 23 July, 1956.

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ESSENTIAL ON-COSTS

Fees payable to L.C.C. for District Surveyor:	
For new buildings of ordinary construction exceeding 5,000 cubic feet, for every 1,000 feet or part of same up to 1,000,000 cubic feet 1/6, together with an additional sum of £1/10/- ..	£1/10/- *at* + 1/6
After which allow per 1,000 do.	at + 9*d*.
For alterations and additions:	
When £100 the sum of £2/10-, plus 12/6 for every £100 or part of same, up to £1,000 ..	£2/10/- *at* + 12/6 per 100
When over £1,000 the sum of £8/2/6, and for every £100 or part of same beyond 3/-	£8/2/6 *at* + 3/- per 100
Public buildings: Fees as above but plus 50% ..	+ 50%
Fees in respect of means of escape in case of fire are 1/5th of the above or £2 if greater or in the case of a one-storey building £1	1/5th
Steel framed or r.c. buildings double	+100%

Allowance to cover National Insurances, Holidays with Pay and Public Holidays, Welfare, Third Party Risk, Travelling and Guaranteed Week is made in the rates attached to the items.

Allow for Fire Insurance do.	1/6%
Allow for Water for use on the works and apparatus do.	6/6%
Allow for hoarding, or similar licences in City of London say	£10
Do. under Borough Councils per each month	say 2/6
Allow for Office, Fire, Attendance on C. o W., etc. p. week say	£1

Supervision, etc., assessment	Contract value £4,000	£6,000	£12,000	£24,000	£50,000
Cost. of admin. ..	6%	5%	5%	4¼%	4¼%
Agent or foreman (each)	5%	4¼%	3¼%	2¼%	1¼%
Timekeeper or Watchman (each)	2¼%	2¼%	1¼%	1%	¾%

SPOT ITEMS AND DEMOLITION, ETC.	Per foot run
Hoarding erected and removed	19/-
Planked gangway with handrail, etc. do. ..	10/-
Proper gantry do.	75/-
Sleeper roadways	16/-
Needling, strutting and shoring including all labours and use and waste in erection and removal ..	Per foot cube 19/-

ALTERATION-DEMOLITION—	1 Brick (Per foot	1½ Brick super)	2 Brick	Per yard cube
Cutting out cement concrete or brickwork in small quantities ..	1/3	2/5	3/5	61/-
Do. if either in very small quantities or reinforced	2/2	3/11	5/8	89/11
Debris into baskets and removed from inside to outside of bldg. ..	3½*d*	7*d*	9*d*	13/-

SCAFFOLDING (Avg. 45ft high) Per yard superficial	Period 1 month	3 months	5 months
Putlog type—4′ 6″ lift	6/2	8/3	10/8
Do. —6′ 0″ do.	4/7	6/4	8/1
Independent type—4′ 6″ lift ..	7/11	11/4	14/10
Do. —6′ 0″ do. ..	5/8	8/2	10/3

EXCAVATION Per Yard Cube. *By hand*	Common Soil	Loamy Clay	Gravel or Clay	Rock or similar
Reducing levels	6/1	7/3	8/6	56/9
Surface trench not exceeding 5ft deep	12/5	14/10	19/9	70/7
Do. from 5ft to 10ft ..	22/8	25/6	30/6	77/-
Do. from 10ft to 15ft ..	28/3	31/1	36/-	84/3
Fill in and ram	4/10	5/6	5/6	5/6
Barrowing 25 yds ..	2/10	3/2	3/2	3/7
Load vehicles and tip 8 miles away	16/-	16/-	17/-	17/9

PLANK AND STRUT	To 5ft deep	5 to 10ft deep	10 to 15ft deep
To trenches, in normal ground Per Foot Super	7*d*.	8½*d*.	10*d*.

CONCRETE 1½in Ballast Aggregate	Per yard cube
1 : 3 : 6 Cement concrete in foundations	75/-
Do. around grillages	78/-

REINFORCED CONCRETE

1 : 2 : 4—¾in concrete, worked around reinforcement, between formwork in the following (at various levels):—		
Foundations and surface beds	83/7	Per cubic
Walls, 12in thick or more	89/2	Yard

Sectional inches	Lintols and beams	Columns and casings		Braces and projections
Up to 36 ..	4/7	4/11	4/9	Per cubic ft
36 to 72 ..	4/5	4/8	4/6	do.
72 to 144 ..	4/4	4/7	4/5	do.
over 144 ..	4/3	4/5	4/3½	do.
Walls 6in thick			18/1	Per super yd
Do. 9in thick			26/9	do.
Suspended floors average 6in thick		..	17/10	do.

REINFORCING RODS (round) bent and placed. (Ex Mills)— Per cwt	¼in	⅜in	½in	⅝ to 1in
In floors and beams ..	84/-	72/-	68/-	59/9
In walls	90/-	76/9	72/-	63/3
In columns	96/8	81/6	76/3	66/-

FORMWORK and Supports (4 times use)— Floor soffits	Beams	Walls	Columns
19/- per Yard	2/6	2/4	2/4 per super foot

BRICKWORK

BRICKWORK per YARD superficial reduced to ONE BRICK in thickness (scaffold to add)—	In 1 : 3 cement mortar
Flettons or other similar *at* 115/- per 1,000 ..	39/10
Mild Stocks or do., *at* 226/6 per 1,000 ..	53/10
Second Stocks or do., *at* 281/- per 1,000 ..	59/7
Southwater engineering or similar bricks, *at* 382/- per 1,000	74/7
Blue Staffordshire wire cut *at* 530/6 per 1,000 ..	90/4
Deduct if 1 : 1 : 6 Cement-Lime mortar is used in lieu of 1 : 3 Portland Cement mortar	2*d*
Add if brickwork commences above ground level	4/-
Do. if in backing to masonry including cutting and waste for bonding	3/3
Do. If circular-on-plan	7/8
Do. If in underpinning	7/8

BRICKWORK IN THICKNESS NOT REDUCED— Per yard superficial	Brick, on edge walls	Half-Brick walls	1 Brick finished fair both sides	11″ Hollow with 2″ cavity and G.I. tics
In Flettons or similar	17/3	22/-	40/9	46/6
In second stocks or do.	23/3	30/10	57/9	63/10
Add: for pointing as work proceeds, per side	1/7	1/9	1/7	1/7
Thickness to old walls, including cutting, toothing and bonding to same an average total thickness of ¼ brick ..		Fletton 55/3	Stock 69/-	Per yard super
Do. all as last but an average total thickness of 1½ bricks..		75/4	99/-	do.

WALLS BUILT IN SUPERIOR BRICKS— In 1 : 3 Cement mortar, fair faced and pointed on both sides as the work proceeds:—	Half-Brick	One Brick	
In first quality Stocks at 302/-	36/3	64/7	Per yard super
In red facings at 320/-	36/-	64/6	super
In bluepressed facings at 587/-	56/8	98/11	do.

GENERAL AND SUNDRY—

Cut tooth and bond new brickwork to old ..		4/11 per ft
Damp proof course, double slate, horizontal ..		3/9 super
Do., as last, but vertical		4/7 do.
Do., bitumen, Hessian base, do.		2/- do.
Frames, bed and point in cement mortar, one side		4½*d* per ft run
Window board of 6″×6″×⅞″ rounded on edge quarry tiles, bedded, pointed, cut and fitted ..		3/6 do.
Terra cotta air bricks built in and pointed, including flue ..	9″×6″ 5/6	9″×9″ 10/- each
Chimney pots, plain red, set and flaunched in cement mortar	1ft high 14/9	2ft high 21/- each
Metal windows, assembled, hoisted and fixed, lugs cut and pinned and frames bedded and pointed one side in cement mortar	Up to 5ft super 12/8	5ft to 10ft super 15/11 each
	10ft to 20ft super 24/6	20ft to 40ft super 40/8 each
Leaving holes through walls for pipes and afterwards making good	Small pipes 3*d* per in depth	Large pipes 6*d* per in in depth
Cutting do., and afterwards do.	11*d* do.	1/9 do.
Cut mortices in brickwork or concrete for bolts or dowles and run in with cement grout		1/2 per in in depth, each
Holdfasts of stout iron hoop bent holed and screwed to frame and built in		1/4 each

MEASURED RATES—*Continued*

BRICKWORK—*Continued*

FACING—

Extra only over common brickwork (115/– per 1,000) for facing with superior bricks in *Flemish bond* and pointing as the work proceeds.

Rustic Flettons (145/–)	4/2	per yard super
White (220/–)	9/9	do.
First Stocks (302/–)	15/11	do.
Reds (320/–)	17/3	do.
Blue pressed (587/–)	37/3	do.

If built in English bond, *Add* 12½% to above
If do. half-brick stretcher bond, *Less* 25% off above.

COPING—

All labour and material in forming brick-on-edge coping with two course of roofing tiles under and cement weather fillets on both sides, built in cement and pointed as the work proceeds.

Per foot run	9″ thick	14″ thick
In picked Flettons	6/3	8/5
In first quality Stocks	7/7	11/1
In red facings	7/5	10/11

Plumbing angles	2*d.* per foot run
Fair cutting	11½*d.* do.
Fair raking cutting	1/6½ do.
Fair circular cutting	1/6½ do.
Fair squint or birdsmouth	1/10½ do.

ARCHES

Extra over Fletton brickwork for forming window head with red facing bricks set on end and with 4½″ soffits and pointing	foot run 3/7
Do. for rubbed and gauged flat arch in red rubbers set in putty with fine joints	foot super 18/3

PARTITIONS

(over 100 Yards)	Per yard super— 2in	2½in	3in
Concrete slab partitions in cement mortar	10/9	12/2	14/4
Hollow clay do.	12/9	13/8	15/3
Cutting and bonding at angles, intersections and ends	5*d.* foot run		

PAVING	1in	1½in	1½in	
Grano trowelled gauge 5 : 2	8/2	9/2	10/3	yard super
1 × 5in skirting, square top and cove bottom			2/10	foot run
½in × 6in red quarry tile paving			29/6	yard super
½in × 6in do. skirting			1/10	foot run
Jointless flooring, ½in thick			20/–	yard super

ASPHALT (normal conditions and fair quantity)

½in pitch mastic floor in one coat on felt underlay on prepared concrete base	B.S. 1450/48	1375/47 Brown	1375/47 Red
Per yard super	12/6	13/2 Mastic	15/– Natural Rock
	Unit	B.S.988	B.S.S. 1162/44
½in in two thicknesses on felt underlay on prepared concrete base	yard super	15/–	22/6
Ditto in narrow widths	foot super	2/6	3/6
¾in skirting 6in high, angle fillet at bottom splayed and turned in at top	foot run	2/6	2/9
External angles	each	6*d.*	6*d.*
Internal *ditto*	each	10*d.*	10*d.*
Tanking or Damp Course		B.S.1097/43	B.S.1418/47
Vertical in two thicknesses	yard super	22/6	30/–
½in horizontal *ditto*	yard super	13/6	23/6
Vertical in three thicknesses	yard super	32/–	41/–
1½in horizontal *ditto*	yard super	18/–	29/–
Labour rounded external angle	per foot run	6*d.*	6*d.*
Ditto internal angle fillet	per foot run	10*d.*	11*d.*
Ditto double *ditto*	per foot run	1/3	1/3
Collars to small pipes	each	3/6	4/–
Ditto to large pipes	each	6/6	8/–

DRAINAGE

Per lineal yard

Excavate trench, and plank and strut to sides, consolidate bottom to fall, return fill and ram earth after drain is laid and load and remove surplus. In ordinary ground—moderately firm

1	foot in depth	4/9
2	do.	8/3
3	do.	19/3
4	do.	25/–
5	do.	32/–
6	do.	42/11
7	do.	52/4
8	do.	66/3
9	do.	77/–
10	do.	94/8
11	do.	107/5
12	do.	121/–

Portland cement (1 : 6) concrete bed under drain pipes and benching up on both sides—6in thick	Per yard run 4in 18in wide 8/–	6in 20in wide 9/6	9in 23in wide 11/6

SALT GLAZED SANITARY DRAIN PIPES
and lay and joint with Yarn and Cement Mortar in trench.

Quality	Quantity	Per foot run 4in	6in	9in
"Best"	2 Tons or more	3/2	4/4½	7/4
	over 100 pieces	3/5	4/10½	8/2
	under 100 ditto	3/6	4/11½	8/6
"Best Tested"	2 Tons or more	3/11	5/1½	9/2
	over 100 pieces	4/4	6/4½	10/6
	under 100 ditto	4/5	6/7½	10/10
"British Standard"	2 Tons or more	3/4	4/11½	7/9
	over 100 pieces	3/9	5/6½	8/9
	under 100 ditto	3/10	5/9½	9/6
"British Standard Tested"	2 Tons or more	4/1	6/1½	9/11
	over 100 pieces	4/8	7/1	11/4
	under 100 ditto	4/11	7/3½	12/–
Extra for bends "Best"—Contained in 2 Ton lots.		4/2	6/3	16/6
Extra for junction "Best"—4in on 4in, 6in on 6in—9in on 9in	ditto	6/6	9/9	27/–

IRON DRAIN PIPES—

Heavy cast iron socketed and laying and jointing in molten lead—	Per foot run 4in	6in
In main runs	13/3	18/5
In branches	14/7	20/–
	each	
Extra over last for bends and extra joint	28/6	61/6
Do. on do. for junctions and extra joint	42/4	79/6
Cast iron gulley with 10½in inlet and 4in outlet, composed of hooper and trap, and 9in extension piece and 10½in grating, and jointing all together, and jointing to drain and surrounding in concrete	177/–	—
Do. rain water, shoe with vertical inlet and inspection cover, and joint up and embed	81/6	135/–

MANHOLE SUNDRIES—		4in	6in
Salt glazed straight half-round main channels	each	5/–	7/–
Do. curved	do.	10/6	15/–
Do. three-quarter section splayed channel bends (Barrons or similar)	do.	14/3	20/8
Heavy manhole steps galvanized	do.	9/9	—
Fix only manhole covers	do.	11/–	—
4in Mica flap, brass faced, f.a.i. valves and fix with molten lead joint	do.	38/6	—

ROOFER

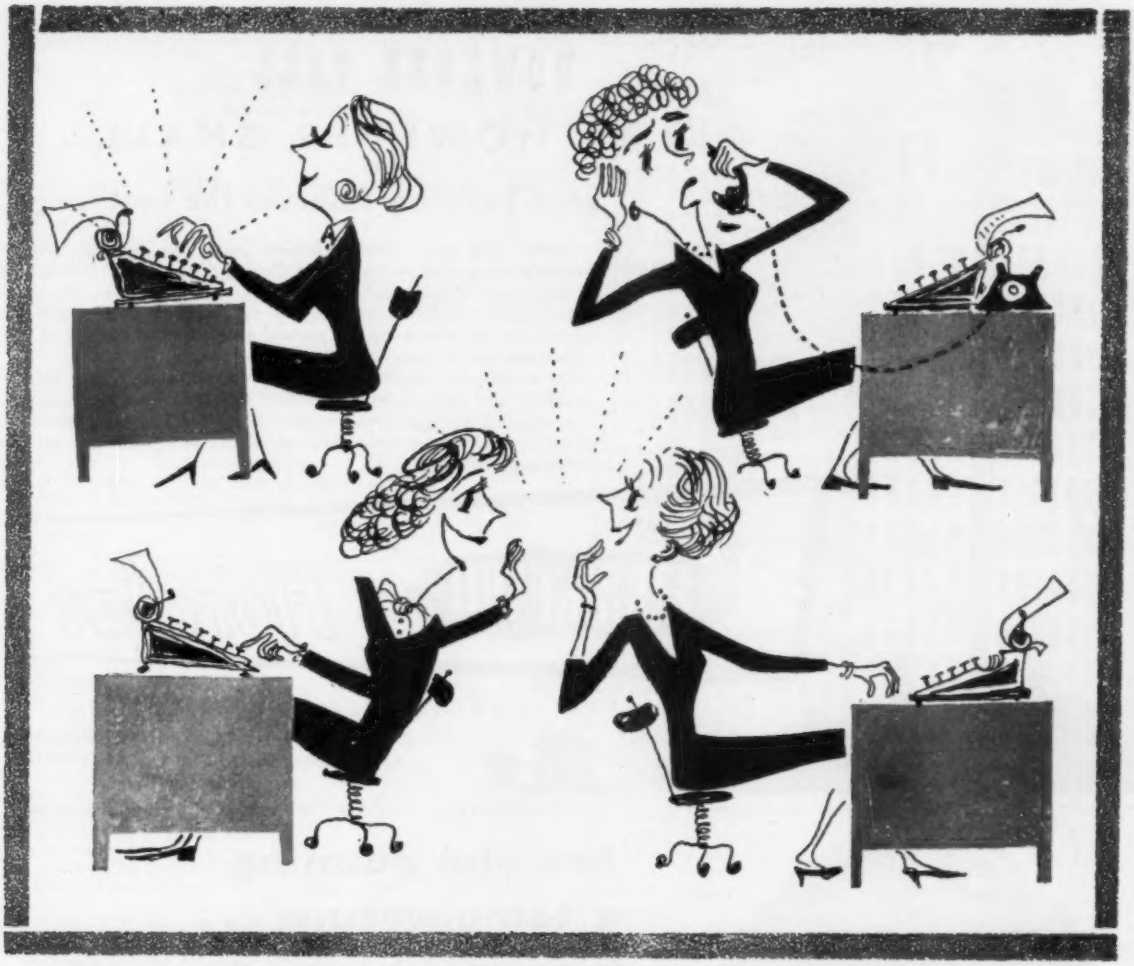
CORRUGATED ASBESTOS SHEETS

P.C. 7/4¾ per super yard, including side and end laps and fixing to wood	144/– per square
Eaves filler pieces	2/– foot run
Adjustable ridge	3/6 do.
Barge boards	2/8 do.
Plain roofing tiles, machine made, sand faced, 4in gauge nailed every 4th course with 1½in galvanized nails, to battens (measured separately)	252/– do.
Extra over last for top edge or abutment cutting	1/3 do.
Do. for double course at eaves	2/5 do.
Do. for verges, undercloak, bed and point	3/6 do.
Do. Valley tiles including cutting and waste on both sides	11/3 do.
Do. Bonnet hips and do. bed and point	11/9 do.
Half-round ridge and bed and point	3/3 do.
Fixing soakers	1/6 dozen

Bituminous felt roofing in two layers, laid breaking joint and bedded with hot mastic and finished with fine dry grit	11/6 yard
Do. but in one layer only	8/6 super

WELSH SLATING 3in lap, 2 zinc nails to each slate	Per square 16″ × 10″	18″ × 10″	20″ × 10″
	312/6	319/6	378/6

Additional labours	Per foot lineal		
At tops, verges and abutments—straight	1/7	1/9	1/11½
Do. —raking	2/4½	2/7½	2/11
At hips and valleys (each side)	2/4½	2/7½	2/11
At eaves, double course	3/2	3/5	3/11
Do. to falls	4/9	5/–	5/9



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They are what is known as a pool. Not one of those peaceful pools that encourage deep reflection and concentration: contrariwise. While May Potter is pounding out a report on her noiseless, Sheila Jones is telling Mavis Pettigrew about last night, while Phyllis Unwin is carrying on with difficulty a telephone conversation about an important client who's lost in the lift or somewhere. If only a girl could *hear*. Shut up, Sheila, do!

No, no, Miss Unwin! Don't blame Sheila, blame the architect who forgot Fibreglass sound absorption when he designed the tower of babble in which you work. This easily-installed, everlasting material will enhance concentration, save time lost in repetition, reduce errors and improve tempers out of all proportion to its modest cost.

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G22A

MEASURED RATES—*Continued*

FLOORS AND FLATS

Hollow tile in situ or precast units hoisted, bedded and fixed—

Superimposed load in lb per foot super	Span 12 feet	Span 16 feet
50 ..	48/6	55/-
Per yard super 100 ..	50/3	58/-
150 ..	54/3	62/-

20lb has been allowed to cover dead load in surface, finish.
Fair edge to slabs .. .. 9*d.* per foot run
Splay cutting and waste .. .. .. 1/9 do.

CARPENTER AND JOINER

SOFTWOOD CARCASSING—

Labour, materials, waste nails, hoisting and fixing	Plates	Joists	Rafters	Trusses
	per foot cube—			
	18/10	20/1	21/8	24/3

FLOORING— Per square—	¾in	1in	1¼in
Rough boarding	141/6	161/6	198/6
Softwood batten flooring, straight joints, splayed headings	143/-	163/-	200/6
Do. grooved and tongued	162/8	193/2	237/9

SKIRTING— Per foot superficial—	¾in	1¼in	1in
Wrot softwood moulded skirting with grounds and backings plugged ..	3/8	4/3	4/10
Mitres to do. .. 3*d.* per sectional inch			
Fitted ends .. 2*d.* do.			

SASHES, fanlights, casements, borrowed lights, etc.—

Per foot super—	Without bars	With bars (2ft sup. in each square)
2in softwood rebated, moulded and fixed	3/2	5/7
Add if fitted with beads	6*d.*	1/6
Add if hanging on butts	2/5 each	

WINDOWS, hung on lines—

Softwood cased frames, 1in inner and outer linings, 1½in pulley stiles, 2in sashes, oak sill ..

Overall size of frames— Per foot super	6ft	21ft	32ft	44ft
Windows as described ..	19/-	10/7	7/11	6/2
Add if sashes in squares, about 2 feet super in each ..	—	1/6	2/-	1/11
Extra for hanging sashes with lines, weights and axle pulleys ..	each 30/3	50/3	62/3	84/3

FINISHINGS TO OPENINGS—

Per foot super— Softwood linings, tongued at angles and tongued to frame including grounds and backings	¾in 3/7	1in 4/1	1¼in 5/-	1½in 5/7
Add if crosstongued	6*d.*	6*d.*	6*d.*	6*d.*
Softwood wrot rounded on front edge and with tongue at back window board including groove in sill and bearers	3/6	4/-	4/11	5/5
Add for ends to last notched, returned and rounded	1/1	1/2	1/3	1/4

Per foot run— Sectional area in inches—	1	2	3	4	5	6
Softwood wrot and fixed in bearers, backings, grounds, fillets, and similar	3½*d.*	6*d.*	8½*d.*	11*d.*	1/1½	1/3½
Add if in short lengths ..	2*d.*	2*d.*	2½*d.*	2½*d.*	3*d.*	3*d.*
" if plugged to brickwork	4*d.*	4*d.*	4*d.*	4*d.*	4*d.*	4*d.*
" if framed as in legs and bearers	3*d.*	3*d.*	4*d.*	4*d.*	6*d.*	6*d.*
" if rebated or grooved or beaded	½*d.*	½*d.*	½*d.*	½*d.*	½*d.*	½*d.*
" if chamfered or rounded edges				1½*d.*		
" if moulded in architraves, capping, etc.				3*d.*		

DOOR FRAMES—

Per sectional inch— Softwood, wrot, rebated, rounded framed and fixed ..	Per foot run— 6in	8in	10in	12in	13½in
	2/2	2/6	3/2	3/6	3/9

DOORS—Per foot super	Number of panels— 1	2	3	4	5	6
2in Softwood square framed and flat panels, both sides, on butts ..	5/8	6/6	7/-	7/6	7/10	8/4
1½in do.	5/1	5/11	6/4	6/9	7/2	7/8
Add for each side moulded	3*d.*	4*d.*	5*d.*	6*d.*	7*d.*	8*d.*
Add B.S. flush panelled	1/6	1/6	1/6½	1/7	1/8	1/8

per foot super— In shelves, table tops, wrot and fixed	¾in 2/4	1in 2/7	1¼in 3/-	1½in 3/6
Do. in divisions and ends framed ..	2/7	2/10	3/3	3/11
Add if crosstongued	6*d.*	6*d.*	6*d.*	6*d.*
Add if buttoned	6*d.*	6*d.*	6*d.*	6*d.*

SUNDRIES—Per foot run ..	In short lengths	In long lengths	Add for cups and screws
Glazing, beads mitred around and fixed with brads.. ..	6*d.*	4*d.*	2*d.*
Rounded heel or hollow ..		4*d.*	
Tongued and grooved angle ..		6*d.*	
Glue blocking		6*d.*	
Mitres	3*d.*	per sectional inch.	
Fitted ends	2*d.*	do.	

STAIRCASE—	Per ft Super
1¼in Softwood treads with moulded nosings. 1in risers tongued both edges and glued, blocked and bracketed on and including two fir framed carriages	6/-
Do. but in winders	7/3
1¼in crosstongued landing on framed carriages	6/-
2in moulded string	5/-
2in do. ramped	11/9
Ends framed to newel	9/8 each
Tongued and mitred angles	5/6 do.
Tongued heading joints	5/6 do.
Ends of treads and risers housed to string ..	3/6 do.
Extra for curtail ends to steps, glued up and veneered riser and solid blocking	100/- do.
Balusters about 2ft 9in long, square and framed each end .. .. each	1in 3/9 / 1¼in 4/6 / 1½in 5/3
3½in × 3½in square newel, framed ..	4/- per foot run
African mahogany moulded 3in × 2in hand-rail. (Joints below)	8/9 do.
Do. ramped 18in girth (do.)	52/- each
Do. wreathed do. (do.)	155/- each
Joint or framed ends	11/- each

FIXING ONLY IRONMONGERY	To deal	To hardwood
Barrel bolts	1/8	2/6 each
Flush bolts	4/-	4/10 do.
Sash fasteners	3/2	2/10 do.
Rim locks and furniture	5/6	7/- do.
Mortice locks and do.	11/-	17/- do.
Cupboard locks	2/9	3/5 do.
Casement fasteners	2/3	2/9 do.
Do. stays	2/3	2/9 do.
Grip handles	2/7	3/5 do.
Spring catches	2/3	2/9 do.
Cabin hooks	1/10	2/5 do.
Floor springs including oil	47/-	60/- do.
Overhead springs	14/-	16/6 do.
Springhinges	11/-	13/6 do.

SMITH AND FOUNDER

Basis framed steel joists and hoist and fix	70/- per cwt.
Do. but in compound girders ..	80/- do.
Do. but in stanchions	81/- do.
Trusses	116/- do.
Additional cost per cwt. over basic sections for following R.S.J.s 9in × 7in, 10in × 8in, 12in × 8in, 14in × 8in, 16in × 8in, 18in × 6in, 18in × 7in, 20in × 6½in, 20in × 7½in	7*d.* per cwt.
22in × 7in, 1/1 cwt. 4in × 3in	1/8 do.
5in × 3in, 5in × 2½in	2/- do.
6in × 3in, 24in × 7½in	2/3 do.
3in × 3in, 2/9 cwt. 4½in × 1½in ..	3/7 do.
3in × 1½in	3/11 do.
Cleats, brackets, packing pieces, etc., in connections, including rivets and bolts	154/- do.
Forged straps	114/- do.
Wrot iron balustrade	153/- do.

RAINWATER GOODS—

Round cast-iron pipe with socketed joints caulked with red lead and tow and fixing with pipe nails and gas barrel distance pieces to plugs in brickwork	Per foot lineal 2in 4/1	3in 4/6	4in 5/10
Extra for shoes .. .. .. each	5/4	6/10	9/9
Do. junctions .. .. .. do.	8/1	10/3	14/10
Do. bends .. .. .. do.	6/4	8/1	10/4

RAINWATER GUTTERS Per foot run—	4in	5in	6in
Half round CI gutters jointed in red lead and bolted and fixed on iron brackets	3/10	4/7	5/7
Ogee do. All as last	4/4	5/-	6/2
Extra for stop ends	3/2	3/10	4/-
Do. angles or outlets	5/6	6/11	8/3

MEASURED RATES—*Continued*

PLUMBER

EXTERNAL—		Soakers	Flats	Flashings
4lb Milled Sheet lead per cwt		191/6	228/7	239/–

LEAD PIPES : running joints, etc.

Per foot run		½in	¾in	1in	1¼in	1½in	2in
Main	Fixed	4/11	7/3	10/2	12/11	16/5	22/6
Service	with	4/5	6/2½	8/4	10/5	12/10	18/3
Waste	hooks	2/10	4/3	5/6	8/6	9/1	11/9
Bends	each	—	—	—	1/9	3/–	8/–
Solder joints	„	8/10	10/9	12/8	14/9	17/4	22/10
Union and joints	„	12/10	16/5	18/6	24/6	—	—
Stop valve and *ditto*	„	28/11	37/7	51/10	80/9	—	—
Bib valve and *ditto*	„	20/8	28/–	—	—	—	—
Ball valve and *ditto*	„	22/6	31/7	49/5	71/11	—	—
Sleeve and *ditto*	„	—	—	—	—	21/3	28/9

COPPER TUBES

	½in	¾in	1in	1¼in	1½in	2in
Tubes per foot run ..	2/10	3/6	4/6	5/7	6/5	9/4
Couplings : straight each	3/4	4/–	6/–	7/9	9/11	13/6
Do. Bends each ..	6/3	7/4	10/5	14/–	21/–	28/10
Do. Tees each ..	7/7	8/10	12/8	17/4	23/1	31/8
Do. Cisterns each ..	4/2	5/7	7/3	9/4	13/–	16/11
Stop cocks each ..	24/4	35/4	63/–	104/6	159/–	240/–

BLACK TUBING (Class C) fixed with pipe brackets	½in	¾in	1in	1¼in	1½in	2in
Tubes, per foot run ..	1/9	2/1	2/7	3/3	3/10	5/1
Bends and fix, each ..	3/10	4/7	5/7	7/3	8/2	12/8
Tees and *ditto*	4/–	4/9	5/9	7/5	9/–	13/4
Fire bends	1/5	1/9	1/10	2/1	2/9	4/10

Coated iron (M) weight L.C.C. soil and waste fixed with nails and distance pieces and molten lead joints	2in	4in	
.. ..	5/5	7/10	foot run
Extra only for bends and joint	14/4	22/11	each
Do. junctions and joints	15/10	28/8	do.
Do. cleaning doors	15/–	16/4	do.
Domical wire guards	2/6	2/9	do.

PLASTERER—

			yard super
Lime and hair	¾"	Render and set	6/8
Do.	½"	Ditto float and set	8/4
Sirapite	½"	Skimming coat	4/–
Do.	¾"	Render and set	8/–
Do.	½"	Render, float and ditto ..	9/10
Portland	½"	Backing coat	4/6
Do.	½"	Plain face	8/–
Do.	¾"	Floor screed	4/10
Keenes	¼"	Skimming coat	5/2
Dubbing	½"	Thick or less	2/4
Metal Lathing	¾"	mesh × 24 Gauge	6/6

6" × 6" × ¼" Earthenware Plain Glazed Tiles, in fair quantity, white, and setting (on prepared screed) .. 41/6
Rounded edge. Extra over last .. 4½*d* per foot run
Angles in ditto .. .. .. 4½*d* each
Cutting and fitting. Around pipes or clips 1/3 ditto
Narrow widths. 3" to 6" wide. Add 75% to plain surface.
Ditto. 6" to 12" ditto. Add 40% to plain surface.
Sundry labours per foot lineal :—
Quirk 2½*d*. Arris 3½*d*. Fair edge 2½*d*. Rounded edge 4*d*.
Flush bead 1/6.
Mouldings—5*d*. per inch girth.
Jointing new plastering to old 3*d*.

POLISHING

	Sashwork	
NEW WORK—	Foot super	Foot run
Staining, bodying-in and French Polish	2/9	1/9
Staining and wax polishing on hardwood	1/2	9*d*.
OLD WORK—		
Cleaning down old work and repolish	1/2	—
Stripping, preparing and repolishing ..	3/–	2/–

INTERNAL PAINTING

With white lead base in common colours, with brushes.

	Knot stop and prime	Prime and paint once	Prime and paint twice	Add for each extra coat	
ON WOOD —					
General surfaces	2/8	5/3	7/6	2/1	Yard super
Running lengths not exceeding 3" wide	3½*d*.	7*d*.	9½*d*.	2½*d*.	Yard run
Do. 3" to 6" wide	5*d*.	9½*d*.	1/2	4*d*.	do.
Do. 6" to 9" wide	7½*d*.	1/2½	1/10	6½*d*.	do.
Do. 9" to 12" wide	9½*d*.	1/6½	2/3½	7½*d*.	do.
Sash square each side	4/5	8/9	13/3	3/9	per doz.
Do. in large squares	6/–	12/6	18/4	5/3	do.
Opening edges ..	7*d*.	1/2	1/9	7*d*.	each
Casement frames each side ..	4½*d*.	8¾*d*.	1/–	3*d*.	Yard run
Mullions or transoms, do	6½*d*.	11½*d*.	1/3	4½*d*.	do.

ON PLASTER—	One coat	Two coats	Three coats	
Paint on surfaces	2/9	5/2	7/3	Per Yard super
Do. on mouldings ..	3/2	5/9	7/11	do.
Do. on enrichment ..	5/6	10/4	14/6	do.
ON STEEL—				
Paint on structural steel ..	2/2	4/2	6/–	do.
Do. on roof trusses ..	3/10	7/7	10/5	do.
Do. on metal windows measured over all on both sides, divided into squares	3/3	5/6	7/11	do.
Do. divided into large squares	2/9	4/9	6/4	do.
Do. divided into extra large squares	2/4	3/11	5/4	do.
Do. on opening edges ..	10*d*.	1/6	2/–	each
Do. on rain water pipe ..	10*d*.	1/7	2/1	Yard run
Do. on do. gutter ..	1/3	2/8	3/7	do.
Do. on small pipe ..	3*d*.	6*d*.	10*d*.	do.

GLAZING (to New Work)

Polished Plate Glass ordinary substance (about ¼in), glazing quality, in the following sizes, glazed complete—Per foot super

In plates not exceeding	2 feet super	in each	..	6/2¾
Do.	5	do.	..	7/3
Do. (unless extra sizes)	45 feet	do.	..	8/2
Do. (unless extra sizes)	100 feet	do.	..	8/7½

Add extra price for glazing with screw beads or clips 5*d*. per foot super.
Do. if glazing bedded in washleather or velvet 9*d*. per foot run

SHEET GLASS, glazed, complete, per foot super, in new work: Ordinary quality clear, glazed to wood with putty :—

24 oz as described	..	..	..	..	..	..	..	1/4½
26oz	do.	..	..	..	..	..	..	1/6½
32 oz	do.	..	..	..	..	..	..	1/10½

⅛ figured rolled and Cathedral, glazed to wood with putty	Per foot super		1/6⅝
Do. in standard tints	do.		2/4½
No. 4 Fluted, glazed do.	do.		2/3
⅛in Reeded (narrow, board, etc.)	do.		1/11¼
Reedlyte do.	do.		1/11½
Spotlyte do.	do.		1/11¼
¼in Rough cast do.	do.		1/10½
¼in Do. wired do.	do.		2/1⅜
¼in Georgian Rough Cast do. ..	do.		2/1⅜

Add for glazing all as before but to steel to similar work as above, 1¾*d*. per superficial foot.

PAINTER AND DECORATOR

DISTEMPERING—In common colours, put on with brushes—ON PREPARED SURFACE.

per yard super—	1 coat (finish)	2 coats (undercoat and finish)	*Add* if required for Sealing coat	Stippling
Ordinary distemper on flat surface of plaster	9*d*.	1/4½	6*d*.	3*d*.
Washable do. on do. of plaster	1/–	1/10	6*d*.	3*d*.
Add if in margins, narrow widths or panels	30%	30%	20%	50%
Add if on mouldings ..	50%	50%	45%	—
Add if on enrichments ..	160%	160%	115%	—

PAPERHANGING

Hanging only—	Per Piece—Lining	Pattern
On walls	6/10	8/2
On stairs	9/4	10/10
On ceilings	8/2	9/7

Assembly Hall, St. Mary's R.C. J.S School, Bo'ness West Lothian
Architects: Alison & Hutchison & Partners F.R.I.B.A., F.R.I.A.S.
Contractors: John Wight & Co (Edinburgh) Ltd.

Show floorthought with MARLEY tiles

TESTED AND PROVED

THE TIME	Recently
THE PLACE	The Fire Research Station, Boreham Wood
THE MATERIAL	A ceiling of ½ inch thick ASBESTOLUX precision-cut ceiling panels

Following the exceptional results of this test, an amended Modulux ceiling design was produced which gives *4 hours* fire protection to steel floor joists . . . the first suspended panel ceiling *proved* to do so. From now on there can be a new impetus in the construction of high buildings. With these ceilings, such buildings can have economical fire protection without additional weight, and can be used safely for more purposes than ever before.

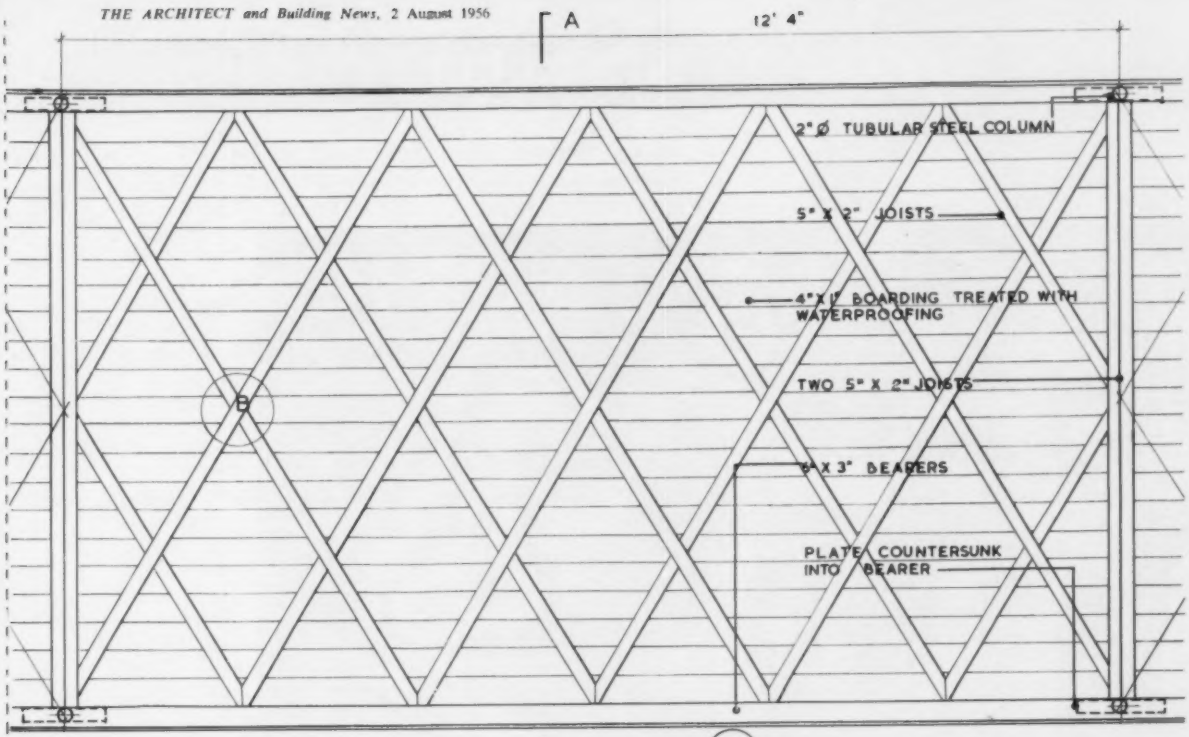
Full details of this test are contained in the official report Reference F.R.O. S.1. 653.

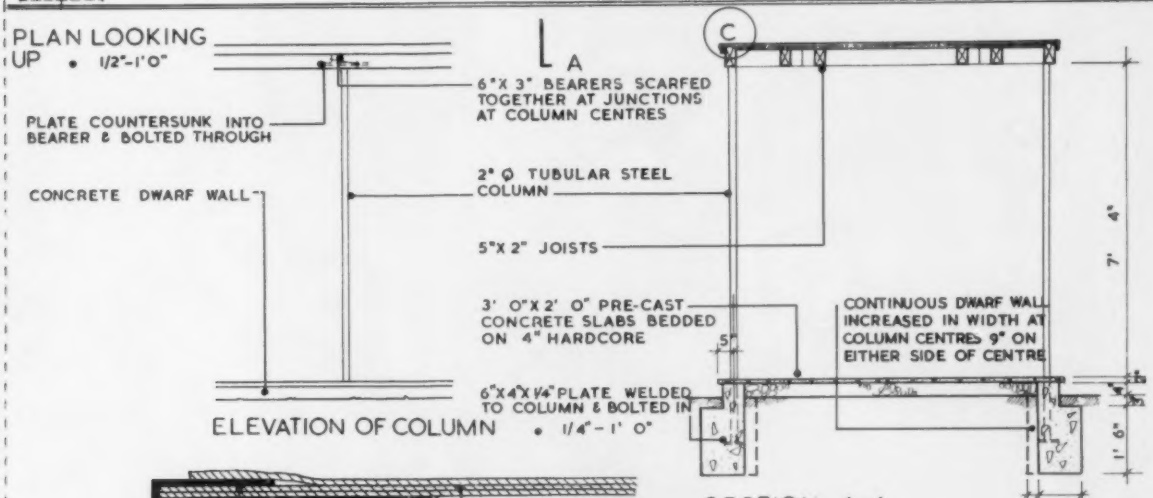
ASBESTOLUX REGD.

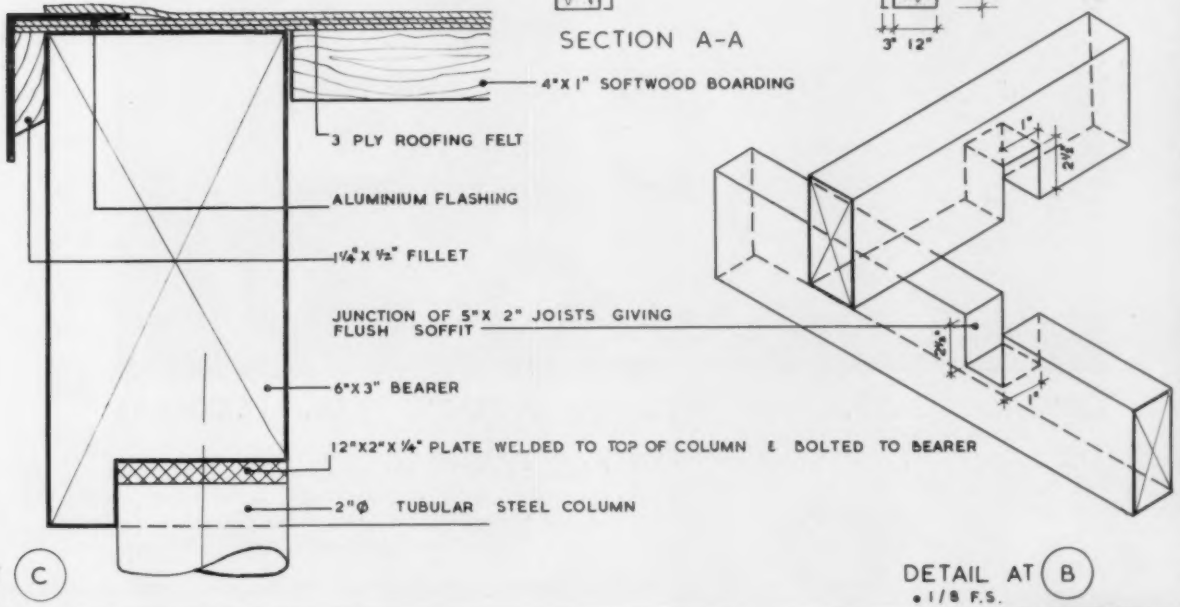
PRECISION-CUT CEILING PANELS

CAPE

CAPE BUILDING PRODUCTS LIMITED · COWLEY BRIDGE WORKS · UXBRIDGE · MIDDX · *UXBRIDGE 4313*
and at MANCHESTER: National Buildings, St. Mary's Parsonage, Manchester 3. Tel: Deansgate 6016-7-8; GLASGOW: 217 Bothwell Street, Glasgow, C2. Tel: Central 2175; BIRMINGHAM: 11 Waterloo Street, Birmingham 2. Tel: Nwland 6565-6-7.


A
12' 4"
2" Ø TUBULAR STEEL COLUMN
5" X 2" JOISTS
4" X 1" BOARDING TREATED WITH WATERPROOFING
TWO 5" X 2" JOISTS
6" X 3" BEARERS
PLATE COUNTERSUNK INTO BEARER
B


PLAN LOOKING UP • 1/2"-1'0"
PLATE COUNTERSUNK INTO BEARER & BOLTED THROUGH
CONCRETE DWARF WALL
6"X 3" BEARERS SCARFED TOGETHER AT JUNCTIONS AT COLUMN CENTRES
2" Ø TUBULAR STEEL COLUMN
5"X 2" JOISTS
3' 0"X 2' 0" PRE-CAST CONCRETE SLABS BEDDED ON 4" HARDCORE
6"X4"X¼" PLATE WELDED TO COLUMN & BOLTED IN
ELEVATION OF COLUMN • 1/4"-1' 0"
A
C
CONTINUOUS DWARF WALL INCREASED IN WIDTH AT COLUMN CENTRES 9" ON EITHER SIDE OF CENTRE
5"
7' 4"
1' 9"
3" 12"
SECTION A-A


4"X 1" SOFTWOOD BOARDING
3 PLY ROOFING FELT
ALUMINIUM FLASHING
1¼"X ½" FILLET
JUNCTION OF 5"X 2" JOISTS GIVING FLUSH SOFFIT
6"X 3" BEARER
12"X2"X ¼" PLATE WELDED TO TOP OF COLUMN & BOLTED TO BEARER
2"Ø TUBULAR STEEL COLUMN
DETAIL AT (C)
• 1/2 F. S.
DETAIL AT (B)
• 1/8 F.S.

COVERED WAY, INSTITUTE OF AGRICULTURE, PERSHORE

ARCHITECTS: RICHARD SHEPPARD AND PARTNERS

ELECTRIC COOKING

DEVELOPMENTS IN SELF-SERVICE

Public catering on the large scale has been revolutionised by the general acceptance of self-service and all that it involves. A considerable measure of standardisation has inevitably come about in the equipment used, with the result that a type of service counter has been evolved which now dominates the design of most eating places of this class, and has strongly influenced the arrangement of many others. Another development was the snack bar with its varied menu of light meals, contrasting with the cafeteria with its conventional two- or three-course meal — usually pre-cooked.

A more important advance has now been made by the introduction of specialised electric cooking equipment, whereby the meal is cooked at high speed in full view of the customer, who, only too pleased to see his food freshly cooked, has been more than willing to accept the limitations of menu that this system involves. As the self-service counter also forms the basis of this new arrangement, it will be convenient to consider first its component parts and the ways in which they may be used.

The Self-Service Counter

The units are assembled as a continuous counter, either in a straight line as in Fig. 1, or shaped to follow the irregularities of the site and take account of obstructions such as posts, columns, etc. as in Fig. 2. The basic groups or sections, each of which may contain one or more units are, in order of approach :

(a) Trays and cold service — bread, rolls, butter, cheese, cold meats, etc.
(b) Hot closet, where soup, gravy, vegetables, 'main dish' and puddings are kept warm and served on to plates.
(c) Cold sweets, pastries, ices, etc.
(d) Tea and coffee service.
(e) Cutlery and cashier.

The depth of the counter is usually 2 ft. 6 in. or 2 ft. 9 in. with a uniform working height of 3 ft. and a 6 in. clearance under all units to facilitate cleaning. Construction is generally of aluminium alloy, stainless steel or vitreous enamelled sheet on mild steel angle framing, working surfaces being of stainless steel. The hot closets, refrigerators and any units containing drawers are made in a small range of lengths, others are constructed to any required length from 2 ft. to 8 ft. to provide the accommodation required and to enable the complete counter to fit exactly the space and shape available.

Counter length is determined by the number of meals required to be served per hour, and the type and complexity of the menu. The counter shown in Fig. 1 is 36 ft. long, and, based on a normal canteen kitchen and menu, has a serving capacity of approximately 150 meals in 10-15 minutes ; for a public restaurant with a more varied menu, it would be approximately 400 meals per hour. Fig. 2 shows a similar counter, as modified for an awkward site, in relation to kitchen and wash-up.

Variations in Counter Arrangement

The extent of the hot and cold service facilities and their relation to the counter as a whole, are determined by the type of menu which the customers prefer. Specialised units, such as refrigerated cabinets for cold meats and salads, or cold sweets and ices, can be incorporated in the counter ; soda fountain equipment, if included, usually necessitates the removal of the hot closet section to the wall behind the counter, together with some of the storage units and preparation counters.

When snack bar service is required, the tendency is to separate the actual serving of food (and drink) from its storage, preparation and portioning : the former units constitute the 'front counter' while the latter, placed against the wall behind it, form the 'back bar'. This arrangement is due to a characteristic feature of snack bar service which permits the customer to order, collect and eat his meal at any point along the front counter, instead of passing in front of it as in cafeteria service.

A further variant is to incorporate the tea and coffee service in a self-contained counter, together with a repeat section of cold sweets and pastries, under control of a separate cashier, or to group it with the soda fountain, as commonly done in seaside establishments.

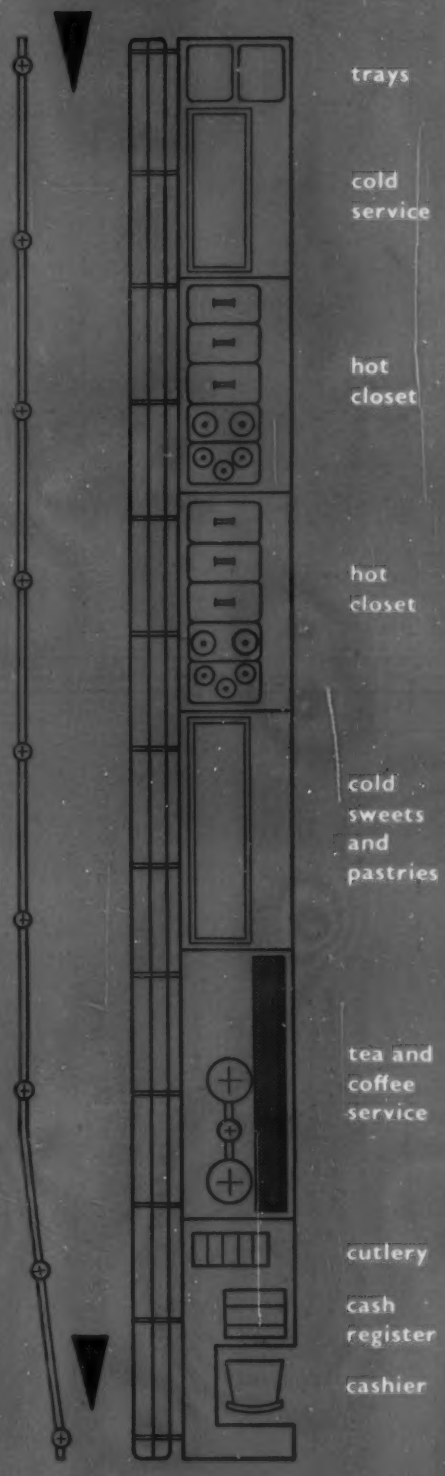
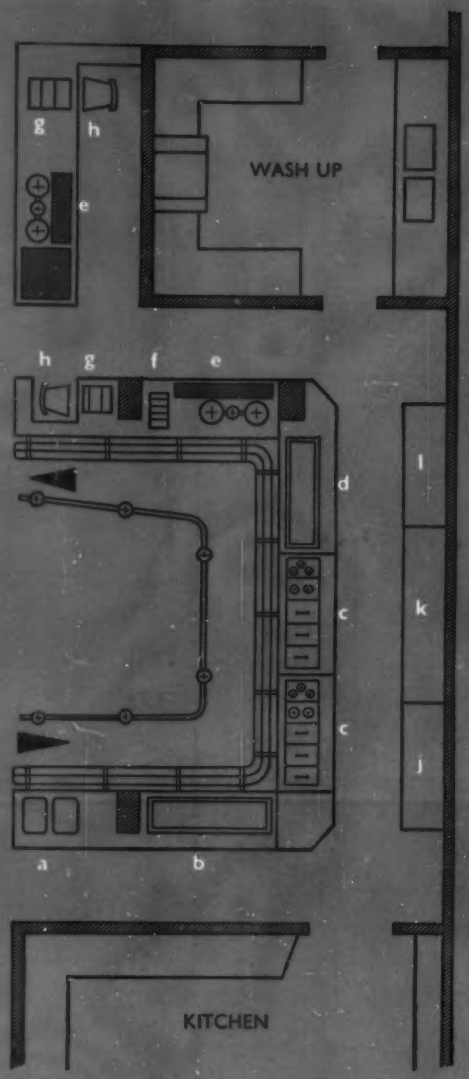


Fig. 1 Typical cafeteria counter

C. 3



a *Trays*
b *Cold service, sundries*
c *Hot closet*
d *Cold sweets, pastries*
e *Tea & coffee service*
f *Cutlery*
g *Cash register*
h *Cashier*
j *Chilled salad unit*
k *Preparation counter*
l *Cold sweets display*

Fig. 2 Cafeteria counter, kitchen and wash-up

Warm Storage

The principal unit of this section is the hot closet, consisting of a bain marie with a hot cupboard below. A number of circular pots and shallow rectangular pans fit into openings in the cover of the bain marie, and are interchangeable so that the accommodation can be varied to suit the day's menu. The bain marie itself may consist of either a hot water bath or a steam bath, the latter supplied from a steam generator with automatic water feed from an integral water cistern. Heat is supplied by thermostatically controlled immersion heaters in both cases. These units require electricity and cold water services, and should be connected to the drainage system to facilitate cleaning and emptying the bain marie.

An interesting accessory is an overhead heating unit for keeping plated meals warm without drying up, the source of heat being a series of infra-red emitters arranged to shine down on a double row of plates standing on top of the counter or hot closet.

Cold Storage

Each cold storage unit is self-contained with its own refrigeration plant. Some are straightforward refrigerators : others incorporate open-access salad pans on top of a chilled cupboard, or sliding trays for prepared food awaiting cooking in the back bar. Ice cream 'conservators', soda fountain and cold sweet units all have their special requirements and are constructed accordingly, some having open refrigerated shelves for the display of made up ice-based goods and a chilled cupboard for storage. All types should be connected to the drainage system for the disposal of water when defrosting, and to the electricity supply.

Back Bar Cooking

In this recently introduced system, the cooking is rapidly carried out by grill, griddle plate and deep-fat fryer grouped together to simplify ventilation arrangements. Some units incorporate a large removable grease filter in a low level hood with duct and exhaust fan, but the extract system, which is of critical importance, must always be worked out to suit local conditions.

The electric grill, of normal type, is placed at eye-level in most cases, the griddle plate for the direct cooking of eggs, bacon, hamburgers, etc., being at counter-level. Another interesting appliance is the so-called infra-red grill, which has two electrically heated plates hinged together at one end to allow the food to be inserted between them. When the upper plate is lowered, the food is 'grilled' on both sides simultaneously with great rapidity.

The deep fryer is usually of the counter type in which a small quantity of oil is held at the correct temperature by thermostatically controlled high loading immersion heaters, whilst retaining a cool zone at the bottom of the oil container which allows sediment and burnt particles to be easily drawn off.

Planning Requirements

The fact that the food is prepared raw beforehand and cooked rapidly when required, involves the replacement of the conventional kitchen by a primary food preparation room between food stores and dining place, the making-up and portioning of the actual dishes being done on the front counter and back bar. Boiling plates or pans may be added for cooking vegetables, soups, etc., to supply hot closet units if these additions to the menu are required. Back bar, operators' gangway, front counter and queueing space can be accommodated in a width of 12 ft. 6 ins., the length depending entirely on the circumstances of each case. If required, this equipment and service could be arranged in a long ante-room to the dining room proper. An efficient wash-up is, of course, essential as well, but the overall economies in space, structure, services and staff make this system worthy of consideration in a wide variety of cases.

Back bar cooking with its great potentialities, takes full advantage of the familiar characteristics of electric cooking ; cleanliness, uniformity of heat and automatic control, permitting exact timing, and — most important in this context — the absence of unwanted and wasted heat.

For further information on the use of electricity apply to:

C. 3 British Electrical Development Association

2 Savoy Hill, London, W.C.2. Temple Bar 9434.

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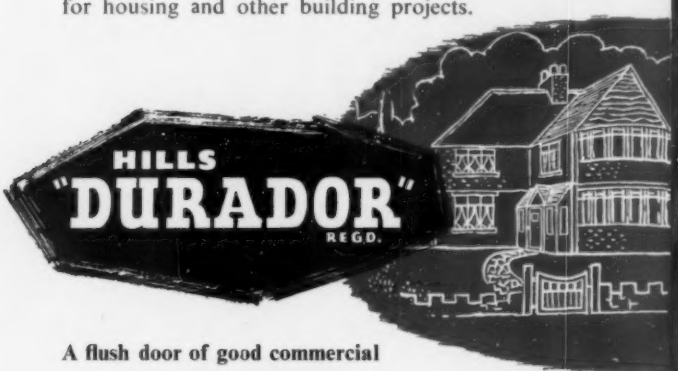

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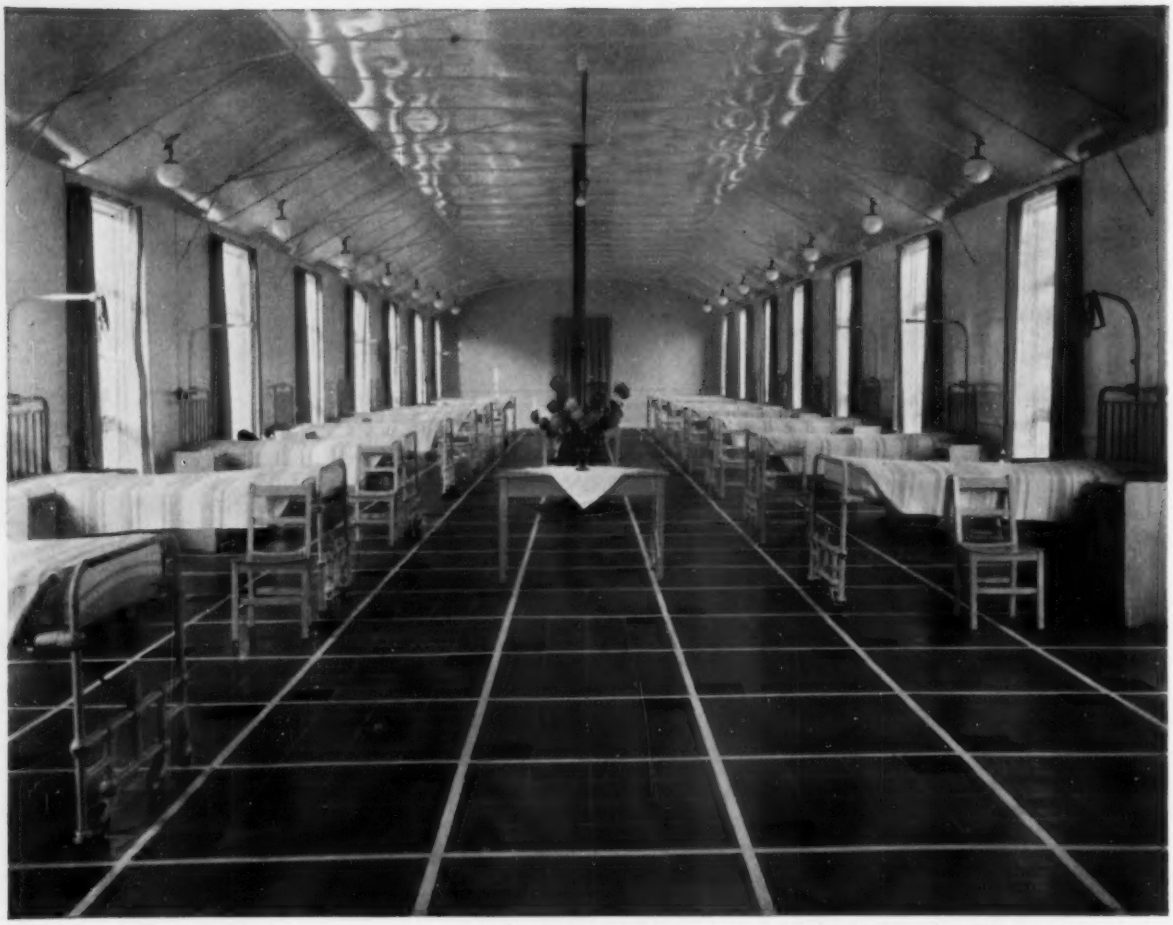

Ryhope General Hospital, Sunderland.

H. Graham Esq., L.I.O.B., AR.San.I., Building Surveyor, General Hospital, Sunderland.
Flooring Contractors: The Neuchatel Asphalte Co. Ltd., Newcastle on Tyne.

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Armstrong FLOORING

ACCOFLEX
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CORK TILE

ARMSTRONG CORK COMPANY LTD., Flooring Department, BUSH HOUSE, ALDWYCH, LONDON, W.C.2. *Telephone: COVent Garden 1101*

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CONTRACT • NEWS •

*Notes below give basic data of contracts open under locality and authority which are in a bold type. References indicate: (a) type of work (b) address for application. Where no town is stated in the address it is the same as the locality given in the heading (c) deposit (d) last date of application (e) last date and time for submission of tenders. Full details of contracts marked * are given in the advertisement section.*

OPEN

BUILDING

ANDOVER R.C. (a) Erection of one pair of cottages at Upton, Hurstbourne Tarrant. (b) Council's Engineer, Council Offices, Junction Road. (c) 1gn. (e) September 10.

BRAINTREE AND BOCKING U.C. (a) Contract No. 4. Erection and completion of one pair of houses Type 46B, one pair of houses Type 47B, three outbuildings and one garage at Challis Lane Estate. (b) Council's Engineer, Town Hall. (c) 2 gns. (e) August 10.

BRIGHTON B.C. (a) Erection of two pairs of police houses on Parkside Estate, and one pair police houses on Lower Bevendean Estate. (b) Brough Surveyor, 26-30, King's Road. (c) 1gn. each contract. (e) August 31.

BROMSGROVE U.C. (a) Carrying out alterations and extensions to Cemetery Lodge. (b) Council's Engineer, Council House. (c) 2gns. (e) August 25.

CANTERBURY C.C. (a) Erection of 31 dwellings at the Hales Place Estate. (b) L. Hugh Wilson, Municipal Buildings. (c) 2gns. (e) August 31.

CANVEY ISLAND U.C. (a) Conversion to 20 housing units and community hall of seven brick buildings on the Furtherwick Camp, together with ancillary works of drainage, water supply, fencing and paths. (b) Council's Engineer, Council Offices. (c) 2gns. (e) September 3.

CHAILEY R.C. (a) Erection of 12 dwellings together with incidental works at South Heighton. (b) Council's Surveyor, Council Offices, Lewes House, Lewes. (d) August 11. (e) September 8.

DARTON U.C. (a) Erection of eight bungalows on Kexborough Brookhill Road site and four on Darton Allendale Road site. (b) Housing Officer, Council Offices, Darton, near Barnsley. (e) August 27.

DEVON C.C. (a) Erection of a biology laboratory at Crediton Grammar School. (b) County Architect, 97, Heavitree Road, Exeter. (c) 2gns. (d) August 8.

DONCASTER B.C. (a) Erection of (Contract No. 591) 46 dwellings in blocks of houses and blocks of two flats and two maisonnettes, and (Contract No. 592) 50 houses in two types in varying blocks, on the Intake Estate. (b) Borough Architect, 15, South Parade. (c) 1gn. each contract. (e) August 24.

EAST DEVON HOSPITAL GROUP. (a) Carrying out adaptations and redecorations at Marlpits Hospital, Honiton. (b) The Secretary, "Redhills House," St. Thomas, Exeter. (e) August 18.

EAST SUFFOLK C.C. (a) Erection of extensions at Harris Secondary Girls' School, Lowestoft, estimated to cost £43,000. (b) County Architect, County Hall, Ipswich. (d) August 9. (e) September 17.

N. IRELAND — PORTAFERRY, CO. DOWN. (a) Erection of a new voluntary intermediate school for the governing body. (b) W. H. McEvoy, Esq., May Street, Belfast. (c) 5gns. by cheque. (e) August 24.

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M

PLYMOUTH C.C. (a) Erection of a primary school at Southway Lane, Tamerton Valley Estate. (b) City Architect, Seymour Road, (c) 3gns. payable to Corporation. (d) August 6.

ROTHWELL U.C. (a) Erection of eight bungalows at Station Road, Methley, and four at Thorpe Avenue, Thorpe. (b) Messrs. R. A. Easdale and Son, Bradley Street, Castleford. (c) 2gns.

RUGBY B.C. (a) Erection of 56 flats for aged persons in five two-storey blocks, together with site works at Abbot's Farm Estate. (b) Borough Surveyor, Burford House. (c) 2gns. (e) September 10.

SCOTLAND — EDINBURGH CITY AND ROYAL BURGH COUNCIL. (a) Erection of nine old persons' houses and five cottages at Fernieside Drive and Craigour Gardens. All or separate trades. (b) City Architect, City Chambers. (d) August 7. (e) September 7.

SCOTLAND — MIDLOTHIAN C.C. (a) Erection of six houses at Wallyford. (b) County Architect, 32, Palmerston Place, Edinburgh, 12.

SCOTLAND — NORTH OF SCOTLAND HYDRO-ELECTRIC BOARD. (a) Carrying out the building works of a small stone-built power station at Dalchonzie, near Comrie, Perthshire. (b) Robert Hurd, 41, Charlotte Square, Edinburgh, 2. (c) £2. (d) August 4.

SCOTLAND — SCOTTISH NORTH-EASTERN COUNTIES POLICE BOARD. (a) Erection of two blocks of two four-apartment police houses at Balmoral Terrace, Bishopmill. All or separate trades. (b) County Architect, County Buildings, Elgin, stating for which works documents required. (e) August 10.

SMETHWICK B.C. (a) Erection of a block of 26 maisonnettes and two flats in West End Avenue. (b) Borough Engineer, Council House. (c) 2gns. by cheque payable to Borough Treasurer. (e) August 30.

SOWERBY BRIDGE U.C. (a) Erection of a lean-to extension to the salvage depot at Mearclough. (b) Council's Architect, Beach Royd, Beech Road. (c) 2gns. (e) August 13.

STONE R.C. (a) Erection of eight houses and two bungalows at Norton Bridge. (b) Hollins, Jones and Oldacre, Lloyds Bank Chambers, Newcastle. (c) £2 by cheque.

TIPTON B.C. (a) Erection of 24 flats and six garages at Tividale Street site. (b) Housing Architect, Municipal Buildings. (c) 3gns. (e) September 3.

WAKEFIELD C.C. (a) Carrying out extensions to the assembly hall at Lawfield Lane School. (b) City Engineer, Town Hall.

WEST RIDING OF YORKSHIRE C.C. (a) (1) Carrying out building work at Breton Hall College, and (2) demolition of existing and erection of a new glazed covered way at Crofton Secondary School. (b) County Architect, Bishopgarth, Westfield Road, Wakefield. (c) 1gn. for Contract 2. (e) August 13.

WEST RIDING OF YORKSHIRE C.C. (a) Carrying out works of adaptation at the former Divisional Health Office, Croft House, Ossett, to provide an occupation centre. (b) County Architect, Bishopgarth, Westfield Road, Wakefield. (e) August 28.

WIDNES B.C. (a) The Corporation intend to compile a list of Approved Contractors from whom tenders for housing contracts will be invited. (b) Borough Architect, Brendan House, Widnes Road, stating the following information:— Capacity and estimated maximum time for completion of contracts up to 20 dwellings, contracts up to 50 dwellings, contracts up to 70 dwellings, contracts up to 100 dwellings, and contracts above 100 dwellings. (d) August 11.

WORKSOP B.C. (a) Erection of 48 flats in blocks of eight in Kilton Hill and Valley Road Estate. (b) Borough Engineer, Park House. (c) 3gns. (e) August 27.

FELLING U.C. (a) Erection of 132 houses and construction of other appurtenant works on the Leam Lane Estate, Heworth (Stage 6 (2)). (b) Council's Surveyor, Council Buildings, Gateshead, 10. (c) 2gns. (e) August 16.

GATESHEAD B.C. (a) Carrying out proposed alterations and additions to Fountain View Old People's Home. (b) Messrs. Spence and Price, 26, St. Mary's Place, Newcastle upon Tyne, 1. (c) 2gns. (e) August 31.

HEMEL HEMPSTEAD DEVELOPMENT CORPORATION. (a) Erection of 186 dwellings, together with outbuildings, 45 garages and external works, etc., at Gadebridge 2 (2B). (b) The General Manager, Westbrook Hay, Hemel Hempstead, Herts. (c) 5gns. (d) August 14.

HORNBY. (a) Erection of a detached residence and garage, together with site works. (b) Reg W. F. H. Jackson and Hodgson, 43, Church Street, Lancaster. (c) £1. (e) August 17.

ISLE OF ELY C.C. (a) Erection of four bungalows and three sets of farm buildings at Willow Row Farms, Ten Mile Bank, Littleport. (b) County Architect, County Hall, March. (c) 2gns. by cheque, payable to Council. (d) August 8. (e) September 15.

KINGSCLERE AND WHITCHURCH R.C. (a) Erection of two pairs of houses, together with external services, at a site off Micheldever Road, Whitchurch. (b) Messrs. Henshaw and Cheek, 26a, High Street, Andover, Hants. (c) 2gns. (e) August 18.

LEDBURY U.C. (a) Erection of eight flats and 12 houses on Mable Furlong site, together with 353 yds of sewer and 200 yds of 3 in asbestos water main. (b) Council's Surveyor, Council offices, Church Street, Ledbury. (c) 2gns. (e) August 23.

LOTHINGLAND R.C. (a) Erection of four pairs of houses at Union Lane, Oulton, one block of four houses at Green Lane Reydon, and two pairs of houses and one block of four houses at Bonsey Gardens, Wrentham. (b) Council's Architect, Council Offices, Rectory Road, Lowestoft. (c) 2gns. by cheque. (d) August 4. (e) September 3.

LYTHAM ST. ANNES B.C. (a) Erection of a crematorium at the Park Cemetery, Regent Avenue, Lytham St. Annes. (b) Borough Engineer, Town Hall, Lytham St. Annes. (c) 2 gns. (e) September 1.

NEWCASTLE UPON TYNE EDUCATION COMMITTEE. (a) Erection of Montaqu Primary School No. 2 to accommodate 400 pupils, on a site at Kenton, Newcastle upon Tyne, 3. (b) Chief Education Officer, Education Offices, Northumberland Road, Newcastle upon Tyne, 1. (c) 5gns. by cheque payable to Education Committee. (d) August 11. (e) September 17.

N. IRELAND — BELFAST. (a) Erection and completion of a new office block at Rosemary Street, Belfast, for the National Society for the Prevention of Cruelty to Children. (b) Messrs. McCarthy and Lilburn, 47, Scottish Provident Buildings, Belfast. (c) £5 by cheque. (e) August 14.

N. IRELAND — DOWN EDUCATION COMMITTEE. (a) Erection of a central meals kitchen at Hillhall, Lisburn, Co.

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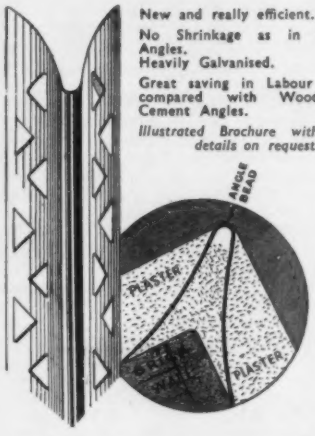

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Antrim. (b) Director of Education, 1, Wellington Place, Belfast. (c) £3. (e) August 23.

N. IRELAND — LISBURN. (a) Carrying out alterations and additions to Friends' School, Lisburn. (b) Messrs. G. P. and R. H. Bell, 26, Ocean Buildings, Donegall Square East, Belfast. (c) 5gns. (e) August 27.

N. IRELAND — MINISTRY OF FINANCE. (a) Erection of a seed potato store at Greenmount Agricultural College, Muckamore, Co. Antrim. (b) Ministry of Finance, (Room 103) Law Courts Buildings, May Street, Belfast, or Local Office of the Ministry of Labour and National Insurance, George Street, Ballymena, Co. Antrim. (e) August 14.

N. IRELAND — NORTH ARMAGH HOSPITAL MANAGEMENT COMMITTEE. (a) Conversion of matron's store into ward accommodation at Lurgan and Portadown Hospital, Lurgan. (b) Messrs. Thomas T. Houston and Co., 26, College Gardens, Belfast. (c) 3gns. (e) August 13.

PLACED

Notes on contracts placed state locality and authority in bold type with (1) type of work, (2) site, (3) name of contractor and address, (4) amount of tender or estimate. † denotes that work may not start pending final acceptance, or obtaining of licence, or modification of tenders, etc.

HULL CORPORATION. (1) 238 dwellings. (2) Greatfield Estate (3) F. Bilton Ltd., 83-87, Wincolmlee, Hull.

COVENTRY. (1) New works, factories, etc., for Sir W. G. Armstrong-Whitworth Aircraft Ltd. (2) Baginton. (3) T. Wilson and Son Ltd., 67, Sheep Street, Northampton. (4) £1,000,000.

BRISTOL CITY COUNCIL. (1) Superstructure of offices, civic restaurant, etc. (2) College Street. (3) Stone and Co. (Bristol) Ltd., 140, Redland Road, Bristol. (4) £138,800.

ACTON B.C. (1) 168 flats (2) Hanbury Road. (3) Rush and Tompkins Ltd., Station Road, Sidcup, Kent. (4) £379,865.

PLYMOUTH CITY COUNCIL. (1) 111 houses. (2) Southway Estate. (3) Direct Labour, and Federation of Master Builders, Plymouth.

HEMEL HEMPSTEAD, HERTS. (1) R.C. church. (2) St. Albans Road. (3) William Lacey (Hounslow) Ltd., Hospital Road, Hounslow.

HARROW. (1) Block of shops and offices. (3) George Moss (London) Ltd., Dorchester Road, Northolt, Middlesex.

BEBINGTON, CHES. (1) New hotel for Walker Cain Ltd., brewers. (2) Spital Cross-roads. (3) Thomas Warrington and Sons Ltd., 82, Station Road, Ellesmere Port, Cheshire.

HEXHAM U.D.C. (1) 50 houses. (2) Hayden Bridge. (3) J. Newman and Sons, Hexham. Northumberland.

LANCASHIRE C.C. (1) Erection of school. (2) Leigh, Atherton Green. (3) T. Collier and Sons Ltd., Leigh, Lancs. (1) Extensions to Technical College. (2) Leigh. (3) George Moss and Sons Ltd., St. Helens Road, Leigh, Lancs.

EAST RETFORD (NOTTS) B.C. (1) 50 dwellings. (2) West Hill Estate. (3) J. H. and W. E. Illett Ltd., Dock Road, Worksop.

KENSINGTON B.C. (1) 24 maisonnettes, six flats. (2) Westbourne Park Road. (3) R. Mansell Ltd., 133, Oxford Gardens, London, W.10. (4) £68,028.

RICKMANSWORTH. (1) Offices, for Ocean Accident and Guarantee Corporation. (3) H. Fairweather and Co. Ltd., St. James' Lane, London, N.10. (4) £100,000.

LUTON. (1) Brewery extension (stage 1) for Flowers Breweries Ltd. (3) T. and E. Neville Ltd., Castle Street, Luton. (4) £40,000.

ILFORD, ESSEX, B.C. (1) Erection of flats for Ilford Lane clearance. (3) Hammond and miles Ltd., Scrafton Rd., Ilford E. (4) £127,085.

WELWYN GARDEN CITY. (1) Buildings, for I.C.I. Ltd., Plastics Division. (3) Welwyn Builders Ltd., Bridge Road, Welwyn Garden City. (4) £60,000.

CENTRAL ELECTRICITY AUTHORITY (1) Civil engineering work for new power station. (2) High Marnham, Notts. (3) Taylor Woodrow Construction Ltd., Southall, Middlesex. (4) £3,000,000.

BIRMINGHAM CORPORATION. (1) 922 houses. (2) Various estates. (3) Geo. Stubbins Ltd., Streetley Road, Birmingham, 23. (2 contracts). Morris and Jacombs Ltd., Small Heath, Birmingham (2 contracts). John Laing and Son Ltd., London, N.W.7. (2 contracts). Wates Ltd., 1,258, London Road, Norbury, S.W.16. (2 contracts). Geo. Wimpey and Co. Ltd., Hammersmith, W.6. Alfred Langley Ltd., Manor Farm Road, Birmingham. (1) 265 dwellings. (2) Kinghurst Hall Estate. (3) H. Dare and Son Ltd., 922, Alum Road, Birmingham, 8.

HENDON B.C. (1) 132 flats in two 11-storey blocks. (2) Claremont Road, N.W.2. (3) John Laing and Son Ltd., Mill Hill, London, N.W.7. (4) £323,018. (1) Concrete frame for refuse destructor works. (3) Heenan and Froude, Ltd., 10, Grosvenor Crescent, London, S.W.1. (4) £198,669.

LONDON COUNTY COUNCIL. (1) 136 maisonnettes, 12 flats, seven houses. (2) Bethnal Green, E. (3) Rush and Tompkins Ltd., Station Road, Sidcup, Kent. (4) £366,512. (1) 68 maisonnettes. (2) Squirrels Street, Bethnal Green. (3) Rush and Tompkins Ltd., Sidcup, Kent. (4) £157,452. Total cost £511,700.

WELWYN GARDEN CITY. (1) Extensions to laboratories for I.C.I. Ltd. (3) Y. J. Lovell and Son Ltd., Gerrards Cross, Bucks. (4) £98,000.

WATFORD CORPORATION. (1) 461 dwellings. (2) Meridan Estate. (3) Carlton Contractors Ltd., Lingfield Crescent, London, S.E.9.

PORTSMOUTH CITY COUNCIL. (1) 124 houses. (2) Parkhouse Farm, Leigh Estate. (3) Faulkners, 113a, London Road, Waterlooville, Hants. (4) £164,963. (1) 30 and 15 flats. (2) Paulsgrove, etc. (3) A. G. Figgins Ltd., Havant, Hants. (4) £44,262 and £30,982. (1) Home for aged persons. (2) Southsea. (3) E. Figgins and Sons, Cosham, Hants. (4) £36,985.

BRIGHTON CORPORATION. (1) 168 houses, 54 flats. (2) Bristol Gate Estate. (3) Gee, Walker and Slater Ltd., 100, Park Lane, London, W.1. (4) £533,342. (1) 144 flats, 66 flats. (3) George Wimpey and Co. Ltd., Hammersmith Grove, London, W.6. (4) £475,239.

BELFAST CORPORATION. (1) Secondary school. (2) Orangefield, Castlereagh Road. (3) Henry Laverty and Son Ltd., 12-14, Cambridge Street, Belfast. (4) £250,000.

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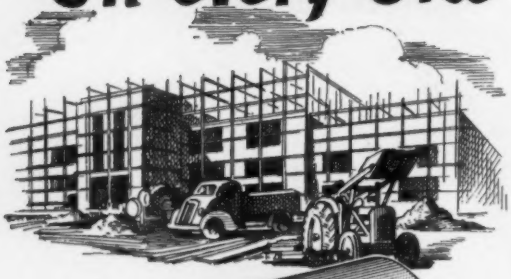

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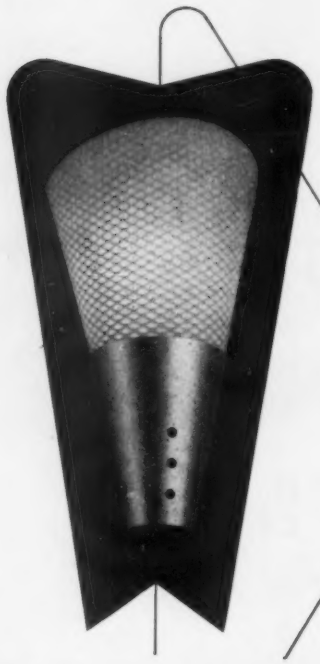

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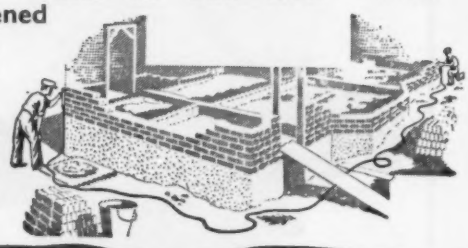

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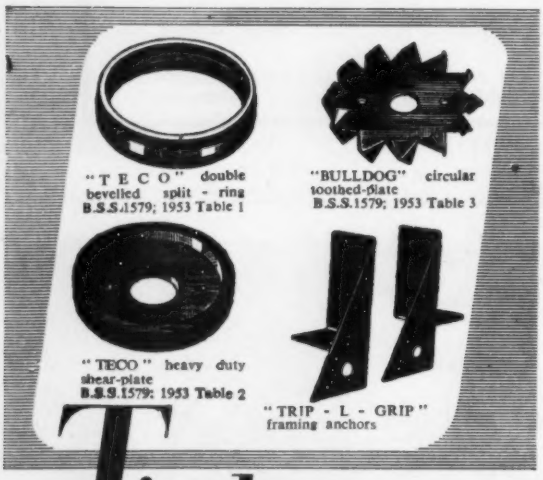
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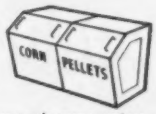

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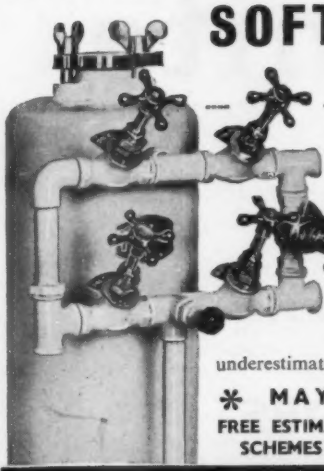

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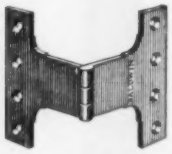

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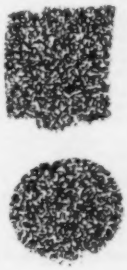

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British Paints Co. 39
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British Plimber Ltd. 23
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Canada Government of 18
C. & P. Development Co. (London) Ltd. 16
Cape Asbestos Co. Ltd., The .. 30
Cellon Ltd. 37
Celotex Ltd. .... —
Cement Marketing Co. Ltd. .. —
Central Electricity Authority .. —
Chamberlin Weatherstrips Ltd. —
Chatwood-Milner Ltd. 38
Cheetham, A. J., Ltd. 44
Chesterman, J., & Co. Ltd. .. —
Chilton Steel Ltd. .... —
Churchouse, C. M., Ltd. .... —
Clarke Ellard Eng. Co. Ltd. .. 21
Clang Ltd. .... —
Claughton Bros. Ltd. 45
Clement Bros., Haslemere, Ltd. —
Clyde Structural Iron Co. Ltd. —
Colthurst Symons Iron Co. Ltd. —
Conder Engineering Co. Ltd .. —
Conex-Terna Ltd. .... —
Coseley Engineering Co. Ltd. —
Costain, Richard, Ltd. .... —
Cox & Co. (Watford) Ltd. .. —
Cox, Williaam J., Ltd. .... —
Cozens Ventilators Ltd. 35
Crittall Manufacturing Co. Ltd. —
Cullum, H. W., & Co. Ltd. .. —
Curfew Doors & Shutters Ltd. —
Curwen & Newbury Ltd. .... —
Cutting, R. C. .... —

Dale, John, Ltd. 2
Dalton, Ballard & Co. Ltd. .. —
De la Rue, Thos., & Co. Ltd. —
Dennison, Kett & Co. Ltd. .. —
Docker Bros. .... —
Dowson & Mason Ltd. .... —
Dunlop Rubber Co. Ltd. .... —
Dunlop and Ranken Ltd. .... —
Dussek Bros., & Co. Ltd. 22

Economic House Drainage Rpg. Co. Ltd., The .... —
Edison Swan Electric Co. Ltd., The .... —
Edelman, J. .... —
Electrolux Ltd. .... —
Elliott, Samuel, & Sons (Reading) Ltd. 42
Ellis, John & Son Ltd. 7
Empire Stone Co. Ltd. 13
Engert & Rolfe Ltd. 35
En Tout Cas Co. Ltd. 16
Esavian Doors .... —
Expanded Metal Co. Ltd. .... —
Expandite Ltd. .... —

Faculty of Architects and Surveyors, The 46
Falkirk Iron Co. Ltd., The .. —
Fibreglass Ltd. 27
Field & Palmer Ltd. .... —
Finch, B., & Co. Ltd. .... —
Finlock Gutters Ltd. 24
Fishburn, L. .... —
Flavel, S., & Co. Ltd. .... —
Flexaire Ltd. .... —
Flexco Plywood Industries Ltd. —
Franki Compressed Pile Co. Ltd., The 6
Freeman, Joseph, Sons & Co. Ltd. 26
French, Thos., & Sons Ltd. .. —
Furniss & Co. .... —
Furse, W. J., & Co. Ltd. .... —

Gardner, J., & Co. Ltd. .... —
Gas Council .... —
Gaskell & Chambers Ltd. .... —
General Electric Co. Ltd., The 28
Gimson & Co. (Leicester) Ltd. —
Glass Fibre Products (London) Ltd. .... —
Glazed & Floor Tile Manufacturers' Association .... —
Gliksten, J., & Co. Ltd. 8
Gold Seal .... —
Grange-Camelon Iron Co. .... —
Gray, J. W., & Son Ltd. 35
Green & Vardy Ltd. .... —
Greenwood's & Airvac Ventilating Co. Ltd. .... —
Grundy, J., Ltd. .... —
Gulf Radiators Ltd. .... —

Hale & Hale Ltd. .... —
Hall Harding Ltd. .... —
Hall, J. & E., Ltd. .... —
Hall & Kay Ltd. .... —
Hammer, Geo. M., & Co. Ltd. —
Hangers Paints Ltd. 28
Hardwood Floorings Manufacturers' Association .... —
Harvey, G. A., & Co. (London) Ltd. .... —
Haskins .... —
Hathernware Ltd. .... —
Haynor Ltd. .... —
Henderson, P. C., Ltd. 25
Henley's W. T. Telegraph Works, Co. Ltd. .... —
Hewitt, F. & D. M., Ltd. .... —
Heywood, W. H., & Co. Ltd. —
Higgs & Hill Ltd. .... —
Hilcrete Ltd. .... —
Hilger & Watts Ltd. .... —
Hill, Aldam, E., & Co. Ltd. .. —
Hill, R., Ltd. .... —
Hills, F. & Son Ltd. 33
Hills (West Bromwich) Ltd. .. 15
Holland & Hannen and Cubitts Ltd. .... —
Holophane Ltd. 11
Holoplast Ltd. .... —
Home Fittings (G.B.) Ltd. .. —
Hotchkiss Engineers Ltd. .... —
Hunter, Douglas (Great Britain) Ltd. .... —

Ibstock Brick & Tile Co. Ltd. —
Iliffe & Sons Ltd. 46
Imperial Chemical Industries Ltd. .... —
Ironite Ltd. 43

Jablo Plastic Industries Ltd. .. 43
Janes, H. C., Ltd. .... —
Johnson Bros., Ltd. .... —
Johnson's Reinforced Concrete Engineering Company Ltd. IFC
Jones, T. C., & Co. Ltd. 3
Jones & Broadbent Ltd. .... —

Kango Electric Hammers Ltd. —
Kerner-Greenwood & Co. Ltd. 45
King, J. A., & Co. Ltd. .... —
Kings Langley Eng. Co. Ltd. —
Klinger, Richard, Ltd. .... —
Korkoid Decorative Floors .... —

Lacrinoid Products Ltd. .... —
Laing, John & Sons Ltd. .... —
Lambhill Ironworks Ltd. .... —
Later, A., & Co. Ltd. .... —
Lead Sheet & Pipe Council .. —
Le Bas Tube & Co. Ltd. .... —
Libraco Ltd. .... —
Light Steelwork (1925) Ltd. .. 36
Lindsay's Paddington Iron Works (1948) Ltd. .... —
Lion Foundry Co. Ltd. .... —
Liquatile Supply Co. 46
Logical Fuel Storage Units .... —
London Electric Firm Ltd. .... —
London Brick Co. Ltd. .... —
London Life Association Ltd. .. —
Lumenated Ceilings Ltd. .... —
Luxfer Ltd. .... —

MacAndrew & Forbes Ltd. 42
Magnet Timber Ltd. .... —
Manger, J. & Son Ltd. .... —
Maple & Co. Ltd. .... —
Margolis, M. 36
Margolis, S. .... —
Marley Tile Co. Ltd., The 29
Mather & Platt Ltd. .... —
McCarthy, M., & Sons Ltd. .. 35
Mealing Bros. Ltd. .... —
Medway Building & Supplies Ltd. .... —
Minton Hollins Ltd. 37
Moler Products Ltd. .... —
Morris Singer Co. .... —
Mullen & Lumsden Ltd. .... —
Murex Welding Process Ltd. .. —
Myton Ltd. .... —

Nairn, Michael, & Co. Ltd. .. —
National Association of Master Asphalters .... —
National Coal Board .... —
New Day Electrical Accessories Ltd. .... —
Newman, Wm., & Sons Ltd. .. —
Newsum, H., & Sons & Co. Ltd. 7
Noelite Ltd. .... —
Northarc Organisation, The .. —
Norwood Steel Equipment (London) Ltd. .... —
Nu-Swift Ltd. .... —
Nu-Way Heating Plants Ltd. .... —

Odoni, A. A., & Co. Ltd. .... —

Paramount Asphalt & Flooring Co. 37
Parker, Winder & Achurch Ltd. —
Penfold Fencing & Eng. Ltd. 39
Permafence Ltd. 44
Permanite Ltd. .... —
Petradene Ltd. .... IBC
Philips Electrical Ltd. .... —
Phoenix Rubber Co. Ltd. .... —
Pickerings Ltd. .... —
Pierhead Ltd. .... —
Plyglass Ltd. .... —
Pollard, E., & Co. Ltd. .... —
Portable Concrete Buildings Ltd. .... 38 & 42
Protim Ltd. .... —
Pyrotenax Ltd. .... —

Radiation Ltd. .... —
Raines & Porter Ltd. .... —
Rainham Timber Eng. Co. Ltd —
Rapid Floor Co. Ltd. .... —
Rawlings Bros, Ltd. 41
Redpath Brown & Co. Ltd. .... —
Reliable Plywood Co. Ltd. .. —
Reynolds, H. L., Ltd. .... —
R.I.W. Protective Products Co. Ltd. 47
Richardson & Starling Ltd. .. 37
Ringmer Building Works Ltd. 35
Rippers Ltd. .... —
Robinson, H. (Ironfounders) Ltd. .... —
Rolyat Tank Co. Ltd. .... —
Rubber Improvements Ltd. .... —
Ruberoid Co. Ltd. 19
Ryjack Productions Ltd. .. —

Sadd, John, & Sons Ltd. .... —
Salopian Engineers Ltd. .... —
Sanders, Wm., & Co. (Wednesbury) Ltd. .... —
Sankey, J. H., & Sons Ltd. .. —
Seaboard Lumber Sales Co. Ltd. —
Sealanco (St. Helens) Ltd. 45
Sealdraught Ltd. .... —
Secomastic Ltd. 36
Semtex Ltd. 9
Schairn Products Ltd. .... —
Schaverien Sheet Metal & Engineering Co. Ltd. .... —
Shell Chemical Co. Ltd. .... —
Shutter Contractors Ltd. 40
Sissons Bros., & Co. Ltd. .... —
Small & Parkes Ltd. .... —
Smith, Samuel, & Sons Ltd. .. —
Smith, Thomas & Sons, Ltd. .. —
Smith's Fireproof Floors Ltd. 20
Sommerfelds Ltd. .... —
Soundproof Construction .... —
Stainless Steel Sink Co. Ltd., The .... —
Standard Metal Window Co. —
Standard Patent Glazing Co. Ltd., The .... —
Stanley, W. F., & Co. Ltd. .. 41
Steelbrac Ltd. .... —
Steel Bracketing & Lathing Ltd. —
Steel Radiators Ltd. .... —
Stelcon (Industrial) Floors Ltd. —
Steralic Filters Ltd. .... —
Stillite Products Ltd. .... —
Storry Smithson & Co. Ltd. —
Stuart's Granolithic Co. Ltd. —
Sugg, Wm. & Co. Ltd. .... —
Sun Insurance Office Ltd. .... —
Sundeala Board Co. Ltd. .... —
Surfex Flooring Co. Ltd. 38
Surrey Concrete Ltd. .... —
Sussex Cement & Concrete Products .... —
Szerelmey Ltd. .... —

Tabula Chalkboards Ltd. .... —
Tarmac Ltd., Vinculum Div. .. —
Taylor Rustless Fitting Co. Ltd. —
Taylor Woodrow Ltd. .... —
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Tee-side Bridge & Engineering Works Ltd. .... —
Templex Holdings Ltd. .... —
Tentest Fibre Board Co., Ltd. 5
Thames Plywood Manufacturers Ltd. .... —
"The Times" Veneer Co. Ltd. —
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Thermacoust Ltd. .... —
Therofire Engineering Co. Ltd. —
Thom, J., Ltd. .... —
Thompson, John, Beacon Windows Ltd. .... —
Thorn Electrical Industries Ltd. —
Thorn, J., & Sons Ltd. .... —
Thornton, William, & Sons Ltd. —
Thorp, J. B. 35
Timber Development Association .... —
Tretol Ltd. 1
Trianco Ltd. .... —
Trollope & Colls Ltd. .... —
Troughton & Young (Lighting) Ltd. .... —
Tucker & Edgar 40
Twisteel Reinforcment Ltd. .. 14
Tyrol Sales Ltd. 47

Unique Balance Co. Ltd .... —
United Merchants Ltd. .... —
United Paint Co. Ltd. .... —
United Steel Companies Ltd. .. —

Veitchi Company Ltd., The .. 44
Velux Co. Ltd. .... —
Versatile Fittings Ltd. .... —

Water Softener & Vacuum Cleaner Service Ltd. 44
Ward, Thos. W., Ltd. .... —
Weatherfoil Heating Systems Ltd. .... —
Wednesbury Tube Co. Ltd. .. —
West's Piling & Construction Co. Ltd. .... —

If no page number is quoted, please see previous issues.

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PERFORATED ACOUSTIC TILE

"SUPACOUST" tiles are manufactured from "Superplaster" (a fine Gypsum plaster admixed with "Superite" the plaster hardener).

"SUPACOUST" tiles combine high sound absorption with all the advantages of the plaster panels.

- **EXCELLENT ACOUSTICS**
- **BEAUTIFUL DECORATIVE FINISH**
- **SIMPLE FIXING**
- **HYGIENIC SURFACE**
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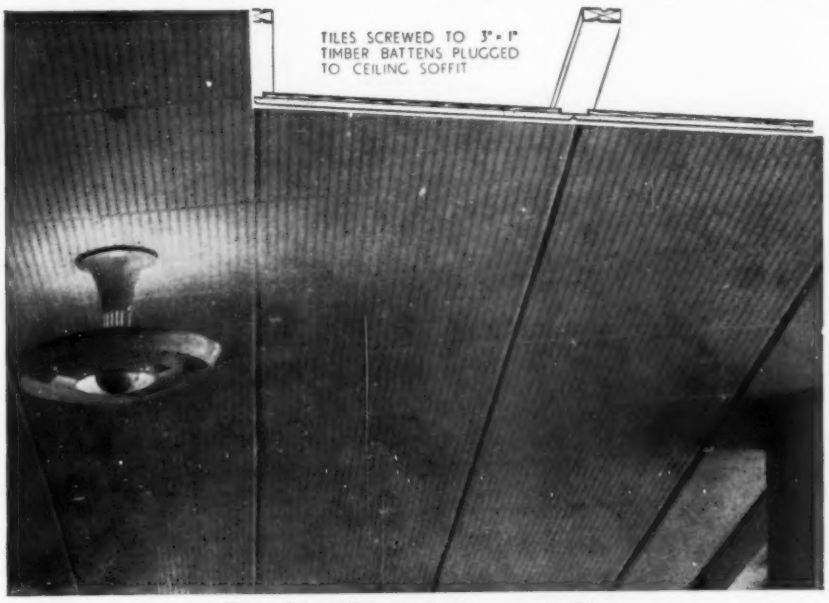

Typical Installation of "Supacoust" Tiles

Performance

Frequency (Cycles per second)	125	250	320	400	500	1000	2000	4000
SUPACOUST TILE with glassfibre quilt backing fixed on timber battens	0.25	0.55	0.65	0.65	0.60	0.35	0.25	0.20
SUPACOUST TILE with 1in wood wool backing	0.10	0.30	0.45	0.55	0.60	0.30	0.40	0.25
SUPACOUST TILE fixed direct on plaster board	0.15	0.10	*	*	0.20	0.35	0.50	0.60
SUPACOUST TILE left open at back	0.90	0.35	*	*	0.75	0.60	0.15	0.25

* Not tested at this frequency.

Sizes

Standards (supplied from stock) 24in x 24in x $\frac{5}{8}$in 24in x 12in x $\frac{5}{8}$in 30in x 15in x $\frac{5}{8}$in

Other sizes to specification.

Weight

Standard Tiles: 2$\frac{1}{2}$lb per sq. ft. If Vermiculite Plaster is used: 1$\frac{1}{2}$ — 2lb per sq. ft.

"Supacoust" tiles can be fixed to any surface by screwing. It is normal to fix only at the corners so that support for the standard panels is required only at 2ft 0in centres of say, 3in x 1in timber battens. Quotations will be gladly given for either (a) Supply to the Site only, for fixing by the General Contractor, or (b) Supply and fixing as a Subcontract.

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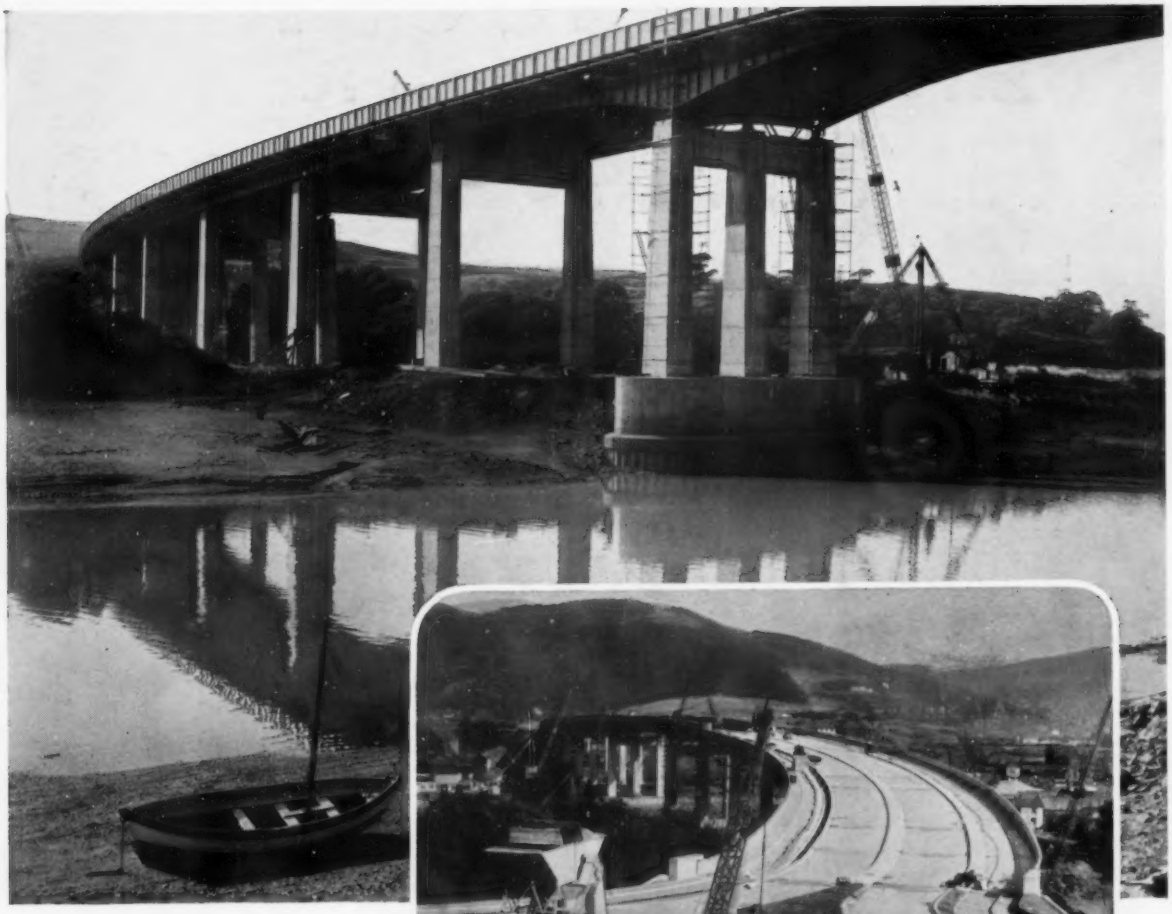

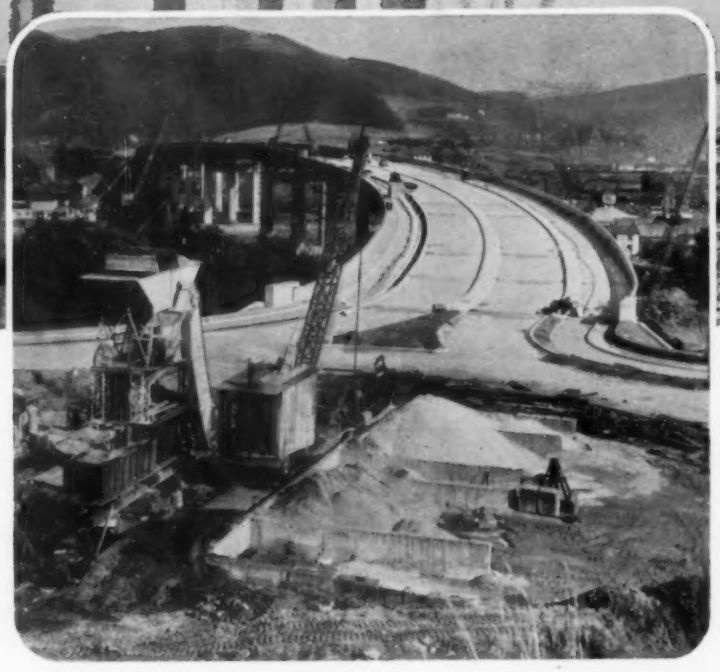

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